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Character Make-up

by **JACK PIERCE**

Head of Makeup Dept. Universal Studio

IN SO far as character makeup is concerned, the work of the makeup artist is closely akin to that of the cinematographer.

Each is creative art of the most intricate order. Each demands that the artist have, in addition to technical ability of a high order, the imagination wherewith to visualize the effect desired, and a thorough understanding of dramatic values by which to judge the desirability of those effects from a story viewpoint. For, even as the best photography—judged solely as photography—can be out of place if not properly keyed to the story requirements, so can the best individual makeup be worthless if it does not perfectly fit the story.

Character makeup may be divided into two main classes: the common run-of-production type—such as turning our Chinsamen, Indians, and Hindus or building beards to dress a set, and real character-study makeups in which the makeup artist literally creates a character over the frame-work of some actor or featured player, to play a prominent role in a picture. The former is relatively easy, for all that is needed is technique and experience: certain mechanical operations—a dab of paint here, a touch of liner there, a bit of tape somewhere else, and an inch or two of crepe hair will automatically produce the desired result, just as in camera work, a "broad" here, a rille there, so much front light, so much back light, and so much top light, will put enough light on a set to assure an exposure.

The latter variety, however—true character makeup—is not so simple. It is pure creative art, just as is getting unusual effect lightings. There are no rules to follow, nothing to guide one except the story requirements and the physical materials at hand. The result must be the outcome of experience and technique guided by artistic sense and imagination.

In creating such a makeup, the makeup artist must first of all know what the story requires. Then he must have time to study the actor in question, and visualize what can be done to make that actor into the desired character. What are the most prominent features of the actor? What does he rely upon most in putting his points over? What should be the most prominent features of the character? Should the actor be concealed by the makeup, or is his normal personality a near enough approximation of the desired character so that the makeup be merely a filling-in of the more sketchy details? And finally—in such parts as the "Monster" in "Frankenstein"—especially—is every detail technically correct?

The creation of such characters requires time. First of all, there must be sufficient time for the makeup artist to familiarize himself with the story requirements. Secondly, there must be time for him to delve into the technical anatomical and psychological background of the character. Thirdly, there must be an abundance of time for him to study the player, and



Sally Fox, featured player



Sally Fox made up as Chinese girl

visualize the exact methods that must be used to make him what is wanted. This last is vitally important, regardless of how well the artist may know the actor already. To cite an instance that is fresh in everyone's memory, let me take Boris Karloff. I have known Boris for a long time, and have the very highest opinion of him both personally and professionally. But this does not by any means obviate the need of studying him anew for each part that he plays. After all, the mere fact that I created his makeup for "Frankenstein" did not greatly help me in creating the one he wore in "The Old Dark House." I was working with the same physical framework, it is true, but in one case I was working for one result, and in the other I was seeking an entirely different effect. Therefore, in each case, I had to spend many days studying Mr. Karloff's physiognomy—not simply as Boris Karloff's face but as a framework upon which to create the desired character. If you study the illustrations, which show Mr. Karloff as he is, as the Monster, and in his new role in "The Old Dark House," you will see that in each case the character is basically different, in one, the eyes, for instance, are treated one way, in the other, quite differently, and so with every feature.



Boris Karloff, as he appears normally

was related in the story. I studied the physical effect of each, and strove to reproduce them in Mr. Karloff's final character. Every line, every scar, every peculiarity of contour had to be just so for medical reasons, the eyes, for instance, were exact duplicates of the dead eyes of a 2800-year-old Egyptian corpse!

For other parts, this research may be more on the psychological side than the anatomical. In such a picture, for instance, as "Back Street," I studied and visualized the physical result of the emotional and psychological experiences undergone by the leading characters during the course of years. In "Resurrection," I had to study not alone the results of the lapse of years, but of the psychological experiences and environments of the characters played by John Boles and Lupe Velez.

All of these details must be coordinated with the one basic requirement of any good makeup—that it must not look like a makeup. The sole reason for any makeup—and particularly a character makeup—is not to proclaim the skill of the makeup

(Continued on page 43)



Boris Karloff, made up as the Monster in "Frankenstein"

Once this study is completed, and I have, either through imagination or research—or a combination of the two—succeeded in visualizing the character, I prepare sketches of my conception of the character, and submit them to the director. His conception of the part, influenced as it is by consideration not alone of the one part, but of the whole picture, may differ slightly from mine. Either of the two may be the better, sometimes a combination of the two will prove better than either individually, sometimes we have to test both makeups photographically in order to decide. But when this decision is finally made, the rest is purely routine. The makeup can be applied identically day after day throughout the picture, with no further reference to anything other than my memory, save where there must be fresh wounds or bloodstains, when for exactness, I refer to still photographs.

Next to the ability to completely visualize a character makeup, technical research plays the largest part. Sometimes this leads one into strange paths. In "Frankenstein," for instance, I spent months of study on the anatomical possibilities of the monster alone. I studied every operation that would be necessary to create such a body from human "spare parts," as



Another picture of Karloff in character makeup

The New Vinten Camera

England's Latest Contribution to Motion Picture Mechanics

ONE of the most important mechanical developments in the motion picture industry of Great Britain within the past few months is a new 35 mm motion picture camera recently placed on the market by W. Vinten, Ltd., of London, and which is claimed by its makers to be the last word in silent cameras. The camera has many unique features and has created much enthusiasm among cinematographers of England.

To make for quietness of operation, a new claw and register pin motion, all obtained from one crank shaft, is used. There are no cams or cam slots, and there are only three pairs of gears for the camera and two pairs for the counter. The gears are of spiral construction and are made of a self-lubricating material. To avoid any film scratching, no pressure is applied to either side of the film.

The film gate, with its register pins inserted in the film, can be moved away from the aperture port and a focussing glass brought in contact with the film. This is effected by means of knob "A," in the accompanying illustration. With the gate in this position the camera is locked. By means of two prisms and an optical system in the sight-tube a large-sized image of the full picture given by the lens is obtained, and by twisting knob "B" a very large magnification of the center of the picture is obtained for critical focussing. The image always appears the right way up through the sight-tube.

One of the prisms is rotatable through 90 degrees by means of the knob "C" so that a magnified image obtained by the plain matching lens inserted in the viewfinder "D" can be seen through the sight tube. This has a distinct advantage in "follow" shots of having a brighter image than when looking through the film.

The spiral lens mounts are of new design with the following chief features: The lens is not revolved when focussed. The iris scale is always visible. A bronze nut running in duralumin gives excellent wearing conditions and the threads are not ex-

posed to dirt. The lens mounts are of such a diameter as to take any large aperture lens, but the camera is built to take a 24 mm. lens and still allow the turret to revolve. A rising front fitting is incorporated in the turret lock. Provision has been made so that the viewfinder may be removed and a direct wide vision finder can be inserted in its place. The 1000-foot Vinten magazines are interchangeable with Bell & Howell magazines. A front attachment arm with support column and bellows sunshade may be attached to the camera by a depressing lever. The driving motor can be attached direct to the sleeve, "E" and this sleeve also takes the S. S. White standard flexible drive.

Incorporated in this sleeve is a mechanical fuse. This fuse slips and makes a warning note in case the film jams or the operator forgets to return the gate to the taking position. This fuse is adjustable to suit the starting torque of the motor, and match sticks or pieces of wire are not needed.

A silent friction tripod is part of the equipment of the new camera. It can be instantly locked in any position and the weight of the camera and magazine is compensated by enclosed springs. The friction tripod head can be removed from the legs by the movement of one lever and placed on a "baby" tripod.

In designing this new camera color photography was not forgotten, for provision has been made for supplying extra gears for back work. These do not interfere with the existing gear.

Two systems of electric motor drive are provided. One is for the new user who relies on play-back system. This is made with rheostat and tachometer and 16 volt battery, for speed of 16 to 24 pictures per second. The other is a DC-AC interlock system for the camera and recorder which is driven on the direct current with a 48 cycle AC interlocking system from a 50 volt battery.



The new Vinten camera showing movement



Mr. Vinten left, and Mr. Gibbs, A.S.C., with the new Vinten camera

Sound Film Editing

by MAURICE PIVAR

Supervising Film Editor, Universal Studios

PERHAPS the least heralded of all occupations in the motion picture industry is that of the film editor, commonly known as the "cutter." Unlike most of the technical branches of the business, film editing does not follow any set routine but each picture and even each sequence in a picture presents a different problem to the editor. This is especially true today when situations are tied up and involved with the sound element.

The film editor must not only know how to "cut" and assemble a picture, but he must apply intelligence and ingenuity to his work. He must not only know the routine of editing but he must thoroughly understand and know screen values—dramatic, comic, and photographic—and take full advantage of the film he has in hand so that it will appear to the audience to the best advantage. A cutter devoid of the ability to feel dramatic and comic impulses would be of little assistance to the director even though he might be fully versed in the mechanics of his work.

Those of us who are familiar with productions, are aware that the average feature picture involves anywhere from thirty thousand to sometimes three hundred thousand feet of film, and it requires efficiency and speed for an editor to be able to place his hands on any particular scene at any time, without having to wade through thousands and thousands of feet of film.

The systems used for keeping track of this excess film vary in the different studios. We at Universal, through the cooperation of our laboratory and the production department, have simplified this phase of cutting to a great extent. After each day's work on the set, the script girl sends to the cutter a copy of her record of the day's work. This record states clearly the number, the length and the dialog of each scene. This is kept on file from day to day by the cutter. Time and again during the course of editing a picture, a director will prefer a scene changed from one angle to another and sometimes, there is a question as to whether such a scene may have been shot and to avoid wading through the film to verify it, the cutter instead refers to the script girl's notes.

In addition to the script girl's record, a laboratory record is also kept by each cutter. This record is sent through with the film, commonly termed "dailies," which is printed up each day by the laboratory. The edge numbers and scene numbers of each scene printed is marked on the record. Quite often during the editing of a picture a scene is either damaged or more often cut up by the changing of cuts to the extent that a reprint is necessary for practical handling. The use of the laboratory records and the script girl's daily record facilitates the ordering of reprints and the checking of various scenes in the picture.

The routine involved in the preliminaries of editing a picture varies somewhat in the different studios. The majority, however, favor the use of separate sound track and separate action during the process of editing. There are several studios, however, which use movietone prints or—in other words—prints which have the sound already printed on to the action. This method may be more economical from a standpoint of saving of film, but the writer is in sympathy with the use of separate sound track, for the reason that it offers a greater latitude in the editing of a picture.

The first step in connection with editing is, as a rule, to synchronize the sound track with the action. This is accomplished by the use of a specific mark or punch at the

beginning of each scene. This punch or mark is made on both the action and the respective sound track and it is necessary, therefore, to see that both punch marks start at the same point.

To simplify the handling of separate sound track and separate action, the use of numbers on the edge of the film—spaced one foot apart—is necessary. These numbers are made in duplicate and the same number that appears on the edge of the sound track film also appears on the edge of the action film—both numbers being in the same relative position from the start mark.

With the "dailies" synchronized and properly numbered, they are then shown to the director or any other executives interested in the production. Where there are more than two takes to a particular scene, the director, as a rule, selects the one he prefers and this is the one which is set aside for use in the picture, the others being kept on file.

The efficient editor as a rule starts to edit his picture with the completion of the first sequence. All of the film of this sequence when completed is assembled in continuity order. This gives the editor an opportunity to familiarize himself thoroughly with the film on hand and enables him to visualize the cutting possibilities of the sequence. The editor's objective, then, is to cut this sequence to the best advantage—utilizing such angles as he feels will present the sequence in the most effective manner on the screen.

This procedure is continued as the director shoots his picture, so that within a few days after the director has completed his picture, it is practically ready for him to see in what is termed "first or rough cut." Most directors are thoroughly familiar with cutting and at times are of great help to both the picture and the editor. The director, having made the picture, naturally may have his own ideas with regard to the way certain angles should be used to portray certain scenes. In shooting the sequence, he may have been striving for a certain dramatic or comic value in the situation. Then, oftentimes, the editor may cut it from his own point of view. This, naturally, brings about discussion and—with an intelligent editor—the director at times may find that the editor has already gotten the most out of the situation with the film in hand.

The best results are generally obtained when both the director and the editor work in close harmony and are open-minded to suggestions.

The picture in first cut, naturally runs considerably over the general releasing length and before any final eliminations are made, the picture is presented to the public for its reactions, all further cuts or eliminations being determined by the results obtained when shown to an audience. Quite often certain situations which look very appealing during the process of cutting, fail to impress the audience and, likewise, certain situations which apparently do not seem to carry much weight in the studio projection rooms bring a strong reaction from the audience. In this way, the director and everyone else concerned with the picture is enabled to judge, through the audience reaction, the screen values of all the situations in the picture later removing such situations which prove non-sensical.

Before a preview is held, however, there is a considerable amount of mechanical work that the picture must go through. First, there is the work of embellishing and refining the various cuts. Then the matter of adding sound effects and music and also the injection of certain photographic effects in the shape of lap dissolves and other effects to which the picture may

lend itself. Today, with the perfection of what is called the "optical printer," these effects—such as lap dissolves, etc.—which formerly were made on the sets by the director and which proved very costly because of the loss of time involved, are made on these optical printers after the picture has been completed.

Some studios have a special department which handles the insertion of sound effects and music into the picture. At this studio, we find it more desirable to have the editor himself supervise this phase of the work, for the reason that he is thoroughly familiar with the film and also with the particular desires of the director and the manner in which they are to be placed. Our sound department concentrates on the making of the effects desired and also in the handling of the necessary music. There is also a close cooperation between our sound department and our sound library. When the editor is in need of certain sound effects or music for his picture, this particular track is ordered through the sound department. This department first refers to their files in the sound library and if the track is not already in the library, one is made. However, when a picture calls for considerable music or some special type of music, the sound department of course places this in the hands of a specially assigned musical director.

After both sound effects and music have been supplied the editor he supervises the laying up of these particular sound tracks and both the effect tracks and the dialog tracks go through the process of what is called "dubbing"—which is also handled through the Sound Department by special operators for this purpose.

The work of dubbing presents quite an interesting phase of motion picture production today. Dubbing has simplified to a great extent the making of sound pictures. Where originally sound effects were recorded at the time the scenes were taken, today all sound effects are placed in the picture after the scenes are taken—in fact, after the picture has been otherwise completely edited.

The disadvantage of trying to shoot a scene which carries a decided musical background is that the cutting of this particular sequence is confined to the continuity of the musical score and eliminations cannot be made without causing a noticeable break in the music. The disadvantage of recording sound effects at the same time dialog is being recorded is two fold; it interferes at times with the coherence of the dialog and results in a changing volume of the various effects when the scenes which comprise the sequence are placed together. In fact, each cut is noticeable by the change in volume of this background noise. Once a scene has been recorded with sound effects in the background there is nothing which can be done mechanically to change the balance of sound effect and dialog should the dialog be crowded out by the effect.

When dialog and sound effects are recorded on separate tracks the prominence of the dialog may be emphasized to whatever degree desired in the dubbing. The balance between the two may be varied at will, making the sound absolutely flexible in the hands of the dubber, and enabling him to at all times keep the dialog intelligible above the general noise level.

It might not be amiss at this point to emphasize the importance of preparation before actual production of the picture. With the advent of recorded sound to the motion picture, the latitude of the editorial department has been minimized to the extent that where originally the possibilities of realigning and recutting silent scenes were unlimited, we are now confined within the limits of the dialog. Today a script before it is put into production should be letter perfect because once the dialog has been put upon the film there is no other recourse than to make retakes should this dialog show up poorly on the screen.

The question of preparation also applies to the timing of scenes. In the old silent days, all a director had to watch for was the position of his actors when changing from one angle to another. He had to make certain that he picked up his actors in the same position when changing his camera angle.

Today, he must not only watch the position of his actors but also the dialog that is being spoken while the actor is in a certain particular position. One of the editor's greatest trials is the carelessness of some directors who over look that very vital point. To illustrate more clearly let us assume that the director is shooting a scene where an actor is seated at a desk, and the actor during the scene arises and crosses the room. During this business the actor has spoken certain definite lines while he was arising and certain others while he was walking across the room. Let us further assume that this scene is shot in a long shot. The director then wishes to shoot the same scene from a closer angle. Quite often, we will find that in shooting this closer angle, the actor did not repeat the lines simultaneously with the action in the long shot. We will probably find that he did not say the first line as he arose from the desk, but as he walks across the room—with the result that the editor is compelled to play the scene in one angle and, even though there may be a decided advantage in going to a closer angle, this cannot be done without showing a break in either the action or the dialog. This of course would be bad from an editorial standpoint and could not be allowed.

The practical director today is one who appreciates thoroughly the limitations of cutting. Directors, however, differ considerably in their methods of shooting. Some directors safeguard themselves by overshooting their picture. That is, they will shoot a scene from many different angles for protection purposes. Other directors, being perhaps more familiar with the cutting of pictures, cut most of their scenes in the camera. Both have their advantages and disadvantages. From the producer's standpoint, overshooting a picture is very expensive—and from the editor's standpoint, undershooting a picture involves untold grief.

A great many obstacles arise as a result of a director trying to cut his picture in the camera. In his effort to economize, the editor finds himself in the position at times, of being limited in the cutting of the picture to the manner in which the scenes were actually shot by the director and unless the director is absolutely perfect in his timing, we find that in trying to connect certain scenes either the action or the sound does not match. It is always a very good expedient for an economical director—in attempting to cut his scenes—to overlap at least part of his dialog and action when progressing his scene through various angles and to particularly watch that the dialog is timed perfectly with the action in each angle that he shoots.

The actual mechanical features involved in the editing of sound pictures are relatively simple. They involve the use of the synchronizing machine, the moviola, the splicer and the rewind. All of these devices are easy to operate and require only a minimum amount of experience to attain more or less perfection in their handling.

The synchronizing of film by edge numbers has been explained previously. In addition, each editor is supplied with a synchronizing machine, the purpose of which is to enable him to keep his film in synchronization as he handles it. This device can best be described as a machine which carries anywhere from two to four sets of sprockets. The editor, while handling his film, places both the sound track and the picture film over these sprockets—keeping the film in synchronization at all times while he is passing it from one reel to another during its handling. Should the film by any chance slip over the sprockets, the editor has the edge numbers by which to guide himself, thus avoiding the necessity of going back to the original start mark in order to check the sound track with the action. Most editors, however, do not use the synchronizing machine much but prefer the Moviola (film viewing and checking device). The practice is to place the sound track underneath the action, both passing over the same sprocket wheel. Inasmuch as the greater part of the sound film is clear, the

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John Arnold Heads A. S. C.

For Second Term

JOHN Arnold, head of the camera department at the Metro-Goldwyn-Mayer Studios, was re-elected President of the American Society of Cinematographers at the annual election of officers held on April eleven. This is the third time in the history of the organization that a president has been elected for a second term, and is a tribute to the excellent work of Mr. Arnold during the past year.

Other officers elected were: Arthur Miller, First Vice-president, Frank Good, Second Vice-president, Elmer Dyer, Third Vice-president, George Schnederman, Treasurer (re-elected), William Stull, Secretary, (re-elected). Mr. Schnederman is holding his office for the second successive year, and held the same office some years ago. Mr. Stull holds his office for the third successive year.

The new Board of Governors chosen consists of: John Arnold, John Boyle, Dan Clark, Elmer Dyer, Arthur Edson, Frank Good, Alfred Glicks, Fred Jackman, Victor Milner, Arthur Miller, Hal Mohr, John Seitz, William Stull, George Schnederman and Neil Van Buren.

The installation banquet was held on Monday evening, April 25th, at the Uplifters Club, Santa Monica, with one of the largest attendances in many years. This meeting was one of the finest and most enthusiastic gatherings of A.S.C. men since the inception of the organization, and judging from the spirit displayed, the coming year should be most successful.

Elmer Dyer was master of ceremonies at the dinner. In his introductory remarks he reviewed briefly the events of the past year and pointed out the work that has been done in the

society and the society's publications, and urged all to give President Arnold the same cooperation during the coming year that was given him in the past.

As was the case last year, President Arnold declared that he has no "platform" to present, declaring that in his belief the laying of a platform by a President is not the best policy because so many platforms break down.

"My promise to the society," said President Arnold, "is to continue working hard and sincerely for the interest of the society and all of its members. I have tried during the past year to work along this line and shall continue so during my present term." He then briefly outlined some of the aims he has in mind and which he is working to attain.

The following committees have been appointed for the coming year: Public Relations: John Arnold, Joseph Dubray, Georges Benoit, H. T. Cowling, Harold Sinszenich, E. L. Dyer, Ariel Vargas, Frank Zucker, Charles Bell.

Research and Education: Harold Rosson, chairman, Dr. L. N. Dietrich and John F. Seitz.

Membership: Harold Rosson.

Production: Daniel B. Clark.

Entertainment: Frank Good.

Welfare and Relief: Arthur Miller.

Board of Editors: George Schnederman, Hatto Tappenberg, Dr. L. N. Dietrich, Dr. C. E. K. Mees, Dr. V. B. Sease, Dr. W. B. Rayson, Dr. Lloyd A. Jones.



John Arnold



TOP, LEFT "RICO" Recording Amplifier in Case. TOP, RIGHT Amplifier out of case showing protective dust cover.
 CENTER, LEFT Exposed view of the new "RICO" Sound Camera with roller lattice Spherical film filter. CENTER, RIGHT,
 Sound Camera ready for operation. LOWER, LEFT Tube assembly of "RICO" Recording Amplifier showing individual pro-
 tecting caps. LOWER, RIGHT, Interior of Amplifier.

The New "Rico" Trunk Unit

by WILFORD DEMING, JR.

IN KEEPING with the modern trend in producing studios, of supplementing fixed and mobile sound recording equipment with light trunk type units, "RICO" is announcing their new type "B" Trunk Channel, which is illustrated by the accompanying photograph, and offered with slight equipment variations as the "RICO JUNIOR." Obviously, for use in conjunction with, or paralleling, the operation of a large Studio Unit, the Trunk Channel must compare favorably, in every respect, with the high operating characteristics of the usual installation. The new "RICO JUNIOR" Unit sacrifices none of the high quality required for production recording, and yet is completely contained, with all accessories, excepting meter power supply in four cases, with a weight of less than four hundred pounds.

The complete assembly shows, from left to right, the accessory box, containing three hundred feet of microphone and power cables, and one silencing blimp... and on the shelf above, two complete microphones, and compartments holding miscellaneous spare parts. One or two camera drive motors are carried, in a section within the coil of cables. The small box, in this instance, contains a driving motor for flexible shaft coupling to a De Brie Camera, and is not standard. In the center of the photograph may be seen the amplifier case, which during operation, rests upon the battery case, with a short junction cable connection. The Sound Camera, with two magazines is carried in its own case, together with the necessary fittings and accessories, and a vibration insulated compartment for recording lights is included.

Recording Amplifier

The Recording Amplifier is designed to meet all normal operating conditions, and provides facilities for simultaneous operation of two microphones, the constant impedance meter controls for which are placed conveniently at the forward edge of the panel. Tube plate currents, and filament voltage, may be read directly on the left hand meter, by means of the row of push buttons located in the center of the panel. The center meter reads the recording lamp current, which is controlled by the potentiometer immediately beneath. The right hand meter is a rectifier type volume indicator, calibrated for various recording levels. Two jacks are provided for monitor headphones, located beneath the volume indicator meter. At the extreme left side of the panel are located the two Cannon connectors for microphone cables, and at the right side, the male connector takes the battery cable, and the glow lamp cable is plugged into the special four prong connector, in the rear. Overall gain is controlled by the knob located between the first and second meters, while the volume indicator level is calibrated on the knob and dial to the left of the volume indicator meter.

An examination of the tube compartment beneath the panel shows two Type 240 and one 654 stages of amplification, feeding a special output stage, using 171A tubes. As a protection against tropical moisture, it will be noted that all interstage coupling condensers and resistors are impregnated in separate cancombs, located between the tubes, from which terminals are brought. As may be seen in the photograph of

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Rico trunk channel assembled for operation

Globe Trotting Cinematography

by **RAY FERNSTROM**

THERE are two distinct differences between the usual one shooting and while globe trotting. Via, First you must be able to explain in many other ways and tongues that 'This is not a surviving machine,' and second, you have to use your ingenuity in a million ways for the equipment you forgot or could not take along.

Definite, final and absolute sailing orders never, for one reason or many come until the very last minute. Then it's grabbing the old box and rushing off. Nevertheless we camera tramps get quite accustomed to gathering news as we roll. Our entire planning and arrangements circle around camera and film. If need be, we can get along nicely with almost everything else and like it.

Once, in Sletsbergen, while on the search for Amundsen back in 1925 I was at a loss for a filter. A piece of stained glass from perhaps the most northerly chapel in the world, served very nicely.

The minute you have left the boat that brought you to the foreign shore of your choice your real troubles, or experiences, adventures, or what ever you want to call them, start. A pencil, notebook, and elbow grease should accompany every traveling crank grinder into strange territory. You may think you know the language of these people, but brother, those dialects and local slang change as rapidly as a chameleon's skin. First resort to the well known sign language. If the addressee still looks blank, transparent or walks away, grab him and go into it with greater enthusiasm, more noise, but always with a big smile no matter how much you despise. This attracts a crowd. On an average of every fourth by this method usually attracts someone who will understand you. Here is where you catch the ball, and then some. Although he understands you perfectly, all his gyrations, emphasis and gey may be wasted, for his attempt at English flavored with perhaps

Foreign Legion Grr, Potagees dried or just plain stuttering will make you so mad the smile fades. But here is where will power makes for success. Get out the pad and pencil. Draw a motion picture of what you are trying to convey. This brings your crowd closer. Here is where a police whistle comes in handy. With the crowd closing in to view your work of art, blow the whistle. This absolutely brings someone who can speak your tongue, or the not squid.

Last summer while on an expedition, we were in the far, near or middle East, to wit Finland, on the Russian border. Get out your atlas. See that lake, that's LADOGA. Right out in the middle of it is an island, or rather a small group of them, called VALAMO. There's a real Russian monastery there. The last remaining sign of Russian Christianity. We had a Finn with us to interpret my Swedish into Russian. Here's how it worked out: finally Johnny Boyle would tell me in English whatever was on his mind. I'd repeat it in Swedish and our Finnish friend would tell the Russian monk what was said. The old monk shook his head. "I guess the answer is no," John said. But the truth was, that the Russian our Finn spoke was not the Russian of the monks. So we won our point with Pantormini.

As we said earlier, ingenuity is Paramount. All of us like to work in a perfect darkness, when it comes time for tests, and reloading. But such one seldom sees, and almost never enjoys, on a real expedition. Change bags, quilts, closets, etc become the rule of the road. Just for fun, let me here relate an experience in Denmark. My room had no real closets. A movable coat closet stood near a wall. I climbed up into it to check the light leaks. With a little taping, it would do. We were shooting dupack color, on this particular trip. Double magazines, double cans, double rolls to unload and reload. Just room enough to get in the closet, no light, and all that junk.

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The author in a skiff, out to get his picture.



After a storm on a schooner.

The Miniature Camera

By CLARENCE SLIFER

THE OLD adage, "There is nothing new under the Sun," certainly holds true in reference to the miniature camera. Our "latest" development in the photographic field, the miniature camera, was used about sixty-five years ago, when a British astronomer, Mr. C. Piazzi Smyth, visited the Egyptian Pyramids. Perhaps this trip holds the distinction of being the first camera-location trip.

At the time of Mr. Smyth's travels, it was impossible to obtain Kodak film at the nearest drug store or to carry an adequate supply with you, for in those days it was necessary for the photographer to make his own photographic plates and these had to be exposed while they were still wet. To offset photographic failures often encountered while working out-of-doors in Egypt, with its high temperature and clouds of dust, Mr. Smyth designed a miniature camera.

Compared with modern miniature camera, the construction details of Mr. Piazzi Smyth's camera are very interesting. The camera was of rigid construction and used no bellows. The back of the camera was formed by a removable ebony tank, with a glass front. This tank held the sensitizing solution. The collodionized glass plate was immersed in this solution and after a given length of time, the exposure was made while the plate was still immersed.

Using a lens of 1 1/2 inches focal length, a negative 1x1 inches was made. Smyth, with these little negatives, was able to make enlargements that were comparable with contact prints of like size. Naturally, you perhaps wonder why the photographic profession did not hasten to adopt Mr. Smyth's camera as a worthy addition to their equipment.

I imagine the arguments both for and against the little camera were much the same as we hear today. Unlike today Mr. Smyth had but a few points on his side when it came to comparing cameras, materials, and working methods. It was true that his negatives were small, but it was just as easy to make a large wet-plate as a small one. He could make enlargements of 8x10 size and larger, but with his crude enlarging apparatus and slow paper it took infinitely longer to make enlargements than contact prints. He couldn't brag about the wonderful depth-of-focus that his pictures possessed because the man using an 8x10 camera also had good depth-of-focus in his pictures as he rarely made an exposure without stopping his lens down to a pin-hole in size. Even in those days of generous size pockets could you have stretched the truth a bit to call Mr. Smyth's brain child a vest-pocket camera. A tripod was also an indispensable piece of equipment.

If only Mr. Smyth could have exhibited some of the modern miniature cameras, to his colleagues, like the Leica, the Rolleiflex, the Kolbin, the Pilot, the Mankinette, and many others. With grin he could have pointed out the versatility of the Leica with its many lenses of various focal lengths and large apertures. Its capabilities as a stereo, panoramic, aerial, microscopic, three color, copying, speed, and candid camera, while still retaining its essential feature, compactness. Could he have clinched his argument for the miniature camera by exhibiting a modern enlarging machine and telling of the good things to come in the future, as fast panchromatic film and splendid paper for enlarging upon, I can imagine that he would have had many supporters for his cause. Unfortunately Piazzi Smyth was 60 years ahead of the photographic field.

Until recently the miniature camera has had a tough struggle for recognition. A few short years ago the leading camera in the miniature field was the so-called vest-pocket camera. This camera made a picture 1 1/2 by 2 1/2 inches in size. A few models had lenses with an aperture as large as f4.5. I had one of the cameras made by Carl Zeiss. It was well made and was small enough to carry in a purse case similar to one I use for my Leica. Vest pocket cameras in those days lacked originality of design. They were merely condensed duplicates of standard cameras. They still required the same number of operations preliminary to making a picture and they still used the old familiar bellows with its many faults amplified by trying to crowd it into as small a space as possible. A few attempts were made from time to time to use motion picture film in a miniature camera. That idea was also ahead of the times due to the fact that motion picture film in those days was nothing so write home about.

Miniature cameras started to change in design. They were made sturdier and lenses on extreme aperture were fitted to them. Eisenmann started the ball rolling with their miniature focal plane camera and later with the Eisenmann Ermanox fitted with Erno-star lens of then unheard of aperture, f2.0. Due to the enormous aperture of the lens, the Ermanox looked like a portrait lens with a bit of a camera attached. As there was a strap attached to the lens barrel, you could wear the camera around your neck like a pair of binoculars. The miniature camera was certainly developing into a sporting proposition.

I am sorry to say that my experiences with the excellent Ermanox were not so hot. Most of the time I was unable to obtain films or plates of the proper size and those that I did obtain were much slower than what I was using for my Graflex. It was possible to obtain almost an equal exposure with the

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Study of expression—planning a witty shot—made with a Leica



Director Soder and Cameraman Art Mälar successful in being snugged with a Leica

HAL HALL

says

Stray Thoughts

OUR hat is off to Jack Alcock, editor and publisher of Film Daily, for his remarks regarding "Scarface". Jack, in brief, declared that the picture is too blood-thirsty and merbid to be shown to the youth of America—and he writes this in the paper which depends upon the industry for the advertising that pays its bills. More power to him for his courage. There have been too many crime and gangster pictures already—why make more and even under the pretext of trying to show the futility of crime, place new thoughts regarding crime in the minds of our children. When production officials declare they want to teach a moral lesson it is a lot of baloney—if you don't believe us, just listen to the howls go up in the studios when any picture fails to make the grade at the box office. We have yet to find any picture company willing to lose money to help dear old John Public, either morally or any other way. It is the clink of the dollars at the box office that is behind all pictures. This is only natural when you consider the big investment therein. But why not be honest about it? An echo of the spirit of the late George Eastman is found in the announcement by the Society of Motion Picture Engineers of the awarding to Dr. Peter A. Snell of a fellowship at the University of Rochester for research work that will be useful to the motion picture field. This was made possible by a donation of \$1500.00 by Mr. Eastman who constantly was striving for the betterment of the technical side of the industry. Would that there were more men like him—saying little and doing much of a constructive nature. Too many publicity departments and not enough really constructive thinking and accomplishment seems to be one of the curses of the picture industry—and many other industries.

Uncle Carl

THE FINANCIAL report for Universal Pictures for the quarter ending January 30, 1932, has just been made public—and once again we take off our hat to Carl Laemmle, grand old man of filmland.

The report shows a net profit of \$181,557.11 for the three month period. Not a great profit we admit. But, nevertheless, a profit, which is more than some of the organizations with scores of executives and financial experts have shown for some time. In fact, it is quite refreshing after reading reports of some of the biggest companies that showed losses running into the millions. All of which goes to prove that Uncle Carl apparently knows what the public wants, knows who to put in the production offices, and knows how to curb expenses. A really remarkable man is Uncle Carl.

Congratulations, Mr. Selznick

SINCE David O. Selznick took over the production reins at RKO-Radio Studios in Hollywood good pictures have been the rule. And, from present indications, they will be coming regularly from that studio. Perhaps one of the reasons is the fact that Mr. Selznick has the courage to point the way for the other studios in the matter of using common sense in his picture work. His latest wise move is the abolition of Super-wisdom at that studio. Everyone in the game knows that directors and writers have long been hampered by the supervisor system. We congratulate Mr. Selznick for stepping ahead and eliminating them at his studio.

The Amateur Contest

TIME is flying rapidly by, and we take this opportunity to call to the attention of our amateur readers the fact that only six more months remain in which to make and enter a picture in the \$1000.00 Amateur Contest which this magazine is conducting. Already many really wonderful pictures have arrived, and more are coming right along. The list of prizes has increased until now the value is well over \$2000.00, of which \$1000.00 is in four cash prizes. As no professional cinematographers are permitted to enter a picture every amateur has a fair chance of winning something in this contest. In case the users of 9½ mm. cameras think that only 16 mm. films are eligible we take this opportunity to make it clear that films may be made with EITHER 16 or 9½ millimeter cameras. However, they cannot be made on 35 millimeter equipment and then reduced. Many more equipment prizes will be announced before the contest ends, and we hope to have special prizes covering every type of picture that may be submitted exclusive of the four big cash prizes. Any ambitious amateur who wants to win recognition of his work would do well to get into this contest. Now that the summer months are just ahead, the amateur has splendid opportunities for shooting.

Greta Garbo

IS GRETA Garbo dead? That question has been asked this winter at least fifty times during the past couple of weeks, since the report has spread from some source that the great Swedish star has died and her place has been filled by another actress posing under the guise of the great Garbo. Frankly, we do not know. The entire story seems like a lot of wild rumor to us. Perhaps a marvelous publicity stunt on the part of those line publicity men out at the Metro-Goldwyn-Mayer studios.

These Trying Times

IT is difficult to keep pleasant thoughts in one's mind when you are stopped at least twice each block by men of various ages asking for the price of a meal. Not professional beggars, but men whose faces show the pinch of hunger, privation and suffering. Where will it all end? Where are we drifting?

With a Congress acting like a group of mad men in an effort to find new ways and means of squeezing more taxes from an already overburdened people, one wonders sometimes, what the solution will be. That it will not come from Congress seems a certainty. So it looks as though it is up to us individuals to work it out in our own way. And there is the answer—work. Those of us who have jobs and businesses should put forth the greatest efforts of our lives right now. Depression or no depression, if we work hard enough and long enough we are bound to meet with at least a fair measure of success. And when we are successful it means that we can give someone else a job and a helping hand, which will eventually pull us out of the mire. This is not a time for sitting back and waiting for business to come to us, or for someone else to solve the problem. It is a time when individual effort is needed to start the wheels going in the proper direction again. We have been through depressions before. We have always come through them and our country has risen to new heights of prosperity. It will happen again, but we must stop crying about the hard times, we must lift our heads, stick out our chins and work as we have never worked before—not forgetting at all times to give a hand to the fellow who does not have the chance to work.

Concerning Cinematography

Critical Comments on Current Pictures
by WILLIAM STULL, A. S. C.

THE past thirty days have not been particularly productive of great cinematography. Capably photographed pictures there have been in abundance, but none to rank beside "Shanghai Express," "Arrowsmen," "The Broken Lullaby," or "Mata Hari." No one film, in fact, could honestly be rated as the best of the month.

THE DOOMED BATTALION

• The most striking example of cinematography is "The Doomed Battalion," which was photographed by Charles Stumar, A. S. C., and two German artists, who, unfortunately, did not receive program credit. Their work was, however, excellent. The picture was made partly in Germany, and partly in this country; the German portion was originally commented upon in this department under its original title of "Mountains In Flame." Mr. Stumar had an unusually difficult task in matching the original German photographs, which evidenced the same superbly unique quirks that made "The White Hell of Pitz Palu" so unforgettable. He has succeeded excellently, although handicapped by the fact that the picture was begun by Dr. Arnold Fanck, (of "Pitz Palu" fame), and finished by an American director who, though capable, did not have Dr. Fanck's artistic viewpoint. In the earlier sequences of the film, the picture was marred by a too-great tendency to softness, but as the film progressed, more and more of the original Teutonic virility became evident in Stumar's photography, which was intercut with the German-made portion, and did not suffer by comparison. The picture was full of difficult angle shots, which Stumar has handled in a manner that should bring him praise from all of his fellows. He has been a difficult and a notable achievement.

CLARA DEANE

• Henry Sharp, A. S. C., has a habit of turning out pictures in which the photography maintains such a note of realism that one forgets that it is photography. "The Strange Case of Clara Deane" is such a picture. He has achieved a very nice quality all the way through, without ever being spectacular—which would have, in such a story, been fatal. Toward the end of the film he has a number of very effective effect lightings, which, however, fit in perfectly with the mood and action of the story. The sole criticism that can be levelled at the picture is that in the later sequences, Wynne Gibson's makeup is rather too obvious.

"MICHAEL AND MARY"

• This is far and away the best cinematography that England has ever sent us, and it adds the name of Leslie Rowson to the list of the great masters of the camera. His camerawork matches the story perfectly in its combination of delicacy and quaintness. Since the story covers a wide range of time, and a variety of locales, ranging from Boer War days to the present, and from cheap London rooming-houses to a luxurious West End residence and a formal police-court, Rowson has had an unusual variety of material to work with. No cinematographer could have utilized them to better advantage, and none, certainly could have done so with a need and quality so perfectly matching A. A. Milne's elusive quaintness.

THE TRIAL OF VIVIANE WARE

• This picture is an excellent example of the crimes that are committed in the name of originality. The outstanding atrocity is the way in which changes of scene, lapses of time, and, in fact, everything for which a cut, a fade or a lap-dissolve is normally used, are bridged by wild swings of the camera. On three or four occasions, this device is very useful, a legitimate and novel cinematic device, but when used as it is all through the picture, it is definitely bad. I am surprised that so capable and intelligent a director as Wm. K. Howard could be guilty of so flagrant an abuse of any technical trick. Admittedly, it keeps the picture moving at an unusually rapid tempo; but Howard's direction has sufficient of this in itself so that it does not require the aid of any such trickery. And as it is, the swings add confusion to an already choppy story.

The sets, too, could be improved upon, especially the ultra-modernist courtroom and court-house, which rob the picture of a needed note of reality.

Despite these handicaps, Ernest Palmer, A. S. C., has done a very commendable job of photography. His lightings, compositions, and general feeling could not be improved upon, though his lighting of Joan Bennett is not as sympathetic as it might be.

THE LOST SQUADRON

• This is one of those pictures that might have been. It boasts a good story, a fine cast, and excellent direction—but it is weak as regards the technical details. The photography is adequate, in some sequences rather better than that, but in the main Leo Tover and Eddie Crougier have fallen into the pitfall of exaggerated backlighting. In a picture that stresses the note of harsh realism, it is utterly out of place to see every character—no matter where the action may be—followed by a halo of backlight. These two gentlemen should take a few hours vacation and see "The Broken Lullaby"—so, in fact, should every American cameraman—and learn just how much realism is added to a picture by the suppression of backlighting.

Lloyd Knechtel's process work is excellent, and Elmer Dyer, A. S. C., has, as usual, contributed some superb air scenes. The flying public will, however, be disappointed in the flying and synthetic crashes after having been accustomed to the excellent ones staged for so many films by Dick Grace.

YOUNG AMERICA

• This picture, though unpretentious, is a beautifully photographed production. It is exceedingly welcome to see George Schneiderman, A. S. C., given a chance to photograph such a picture, for it is quite the best work he has done in some time. Much of the credit, of course, must go to Frank Borzage, who is one of the few directors who really understands the cameraman's work, and who invariably sees to it that the cinematographer has ample opportunity to deliver the best that is in him. And Schneiderman has come through with a fine piece of work, despite the handicap of small and unpretentious sets. I have never seen Spencer Tracy photographed so sympathetically.

THE WOMAN IN ROOM THIRTEEN

• This picture is distinguished by more of John Seitz's, A. S. C., fine photography. There are few men, indeed, who can so perfectly feel the mood of picture and scene as Seitz. The process work in this film, by the way, is exceptionally fine.



Three unusual pictorial studies from the camera of Joseph L. Luffin, F.R.S., are shown on this and the opposite page. Above: "Fig Vendor—England." Top opposite page: "Voyagers." Bottom: "Picnic Dance."



Globe Trotting Cinematography

(Continued from page 16)

Hotter than the Sahara, and almost cocktail time. Rush boy, rush. I slammed the door. All went well, a handkerchief kept the sweat from dripping on the film. The job was done. Now for fresh air, and does air ever taste better than after twenty minutes in a clothes closet, in the summer.

No go. Push, pull, hammer and cuss, but the door stayed shut. The room door was closed and my room was the farthest down the corridor. The closer stood on a soft, thick quilt rug. I rocked the damn thing, but no sound. Those Scandinavian cabinet makers certainly make things to last, for I couldn't break the door. I tried to visualize the room. On the other side of the door was a long heavy plate glass mirror. To fall this way would be both costly and curious, for there stood the camera, newly cleaned on the tripod. On the other side was a wall. How far I could not figure but I had to get out. I rocked slowly trying to keep from falling toward the camera. Over she goes. No. There it stayed. I couldn't budge it. It had neatly tripped and caught just under a panel. But I had made contact with the wall. I pounded



The author and John Boyle, A.S.C., with an improvised camera car in Sweden.



The author arriving in New York from a dash to Germany Island with pictures of German Atlantic liners.

hard against the upper corner. Somewhere in the distance a voice came. After what seemed a century the door swung open. I felt as if it was an explosion, so great was the relief from bad air. Did that first cocktail taste good? Let that be a lesson to you guys.

One of the best reasons for hemisphere hopping, is friendships. They may be of short duration, but they are certainly material for memories that sink in. A fellow gets as much out of a journey as he puts into it. A sense of humor, a little boldness, a few neat manners and a glib tongue, and a boatful of people, of all kinds.

Many are the trials and tribulations of the man on the road, but many are the pleasures. What would we do without our adhesive tape? It repairs broken tripod legs, plugs holes in leaky boats, darkens darkrooms and generally is our best friend. It sometimes happens though that a tripod is broken beyond such repair. I have used the tail end of ox carts and even soap boxes when in a rush.

Have you ever forgotten the crank? Or lost it, while working on some precarious position? But worst of all, have you ever found yourself far from supplies and surviving low on negative just as the last part of your picture materialized?

In 1928 when all we newsreel men were rushing north in an effort to first reach the German flyers, Hauptfeld, Koehl and

Fitzmaurice, and their successful plane the Bremen, up in Labrador, I suffered such a pain. In news one seldom carries a heavy supply of film. In those blessed silent days we most often covered a news story in 2 to 400 feet of negative. On that occasion I had 1000 feet when we started. After luckily reaching the subject first I ground like mad. On the flight there a particularly interesting air sequence used up a 200 foot roll. It was mostly clouds with the dangerous terrain below peering through here and there. After reaching the stranded plane I wished for an extra roll for some extraordinarily good news material, much more valuable than the air stuff. There was but one thing to do. I reloading the exposed air stuff and double exposed the news shots heavily over it. When later we view it in New York the effect was not only satisfactory but, the boss complimented me on the scenes.

Sound brought its own problems and occasionally trouble would occur far from home. Good old Norman, my sound man on an expedition to points south of New York, came in for his share. On a flight over Havens the sound went haywire. He left his equipment and joined me by the camera. As the footage indicator moved, was old Norm checked the points of interest below alongside the footage in his note book. Later, on the ground with the sound repaired, we rewound the negative



A bright spot in globe trotting. John Boyle shoots headlines in Sweden.

five and reloaded a background of airplane sound, from the plane tuning up, on the blocks, while I read off the points of interest (presumably below us) from his notations in his book as the indicator located positions on the negative.

When the old Graf Zeppelin took off from Lakehurst on her round the world flight, something was wrong with our sound.

(Continued on page 45)

WHAT DOES YOUR PUBLIC KNOW ABOUT RAW FILM?

NOTHING, perhaps. Yet, whether they're aware of it or not, people are profoundly influenced by the *photographic quality* which that film gives or does not give them on the screen. It may mean all the difference between a picture that goes its quiet, unprofitable way and one that becomes the talk of the town.

There's no need, these days, to run the risk of sacrificing photographic quality. Eastman Gray-backed Super-sensitive Negative, with its unmatched qualities and its never-failing uniformity, costs no more than other films, yet it helps substantially to head the picture for success. Wise the cameraman who uses it...lucky the exhibitor who runs prints made from it!

EASTMAN KODAK COMPANY

J. E. Brulatour, Inc., Distributors
New York Chicago Hollywood

..In the Realm of Sound..

New Sound Service

CONTINENTAL Pictures Corp. announces the opening of their new Hollywood offices and recording studio at 1611 Cosmo St.

A beautiful and spacious sound studio is available for re-recording and scoring with sound effects, music and descriptive talks, and "Rico" recording equipment will provide sound service at the lowest commercial rates available in Hollywood.

This organization also maintains an extensive film library containing many valuable and unique foreign films, and provides a source of raw stock supply at reasonable prices.



Monster Screen Installed in New York Paramount

THE largest Chromolite sound screen ever made was installed in the New York Paramount. The picture surface of the screen measures 31 x 43, a total of 1,333 square feet.

A full length picture of a man filling the screen from top to bottom will show him as about 30 feet tall, each of his shoes will measure about five feet in length, his middle finger will be about 19 inches long, his eye will be larger than an average face, and the mouth from corner to corner will be nine inches wide.

In spite of the immensity of these figures the optical illusion is such that the audience will not be aware of the tremendous size of the figures. They will seem perfectly natural to the patrons viewing the picture.

Public is gradually replacing perforated screens with Chromolites and Super Vocables, the Chromolite in the New York Paramount being the largest up to date.



Photo Cell and Kit Put Out by LuxTron

A NEW photo cell known as the LuxTron ST type, together with a new "R-11" relay and a complete photo cell kit, has been brought out by the LuxTron Devices Co. of Brooklyn. The LuxTron cell, which operates at 22.5 volts, is said to be a very simple yet powerful cell, rugged enough not only for experimental, but for practical applications, and may be classed as a "photo conduction" or "photo resistance" device. Its functional characteristics are such as to vary its electrical resistance, or conductivity, on exposing it to a source of light.

Because of the large current change resulting from light exposure, obtained by the use of the LuxTron cell, it is possible to operate a relay directly without the necessity of employing amplification.

Included in the LuxTron kit, which is said to be complete in every way, containing all the essential components needed to start in the light-operated control field, are a light-sensitive LuxTron cell, a relay for controlling a 110-volt circuit, a gumwood relay cabinet and a complete set of instructions and diagrams.



New Sound-on-Film Device

Paris—René Nublat has filed patents here and in all countries for a new system of sound-on-film recording using entirely new apparatus. Reproduction is said to be excellent and the cost very little.

Westinghouse Develops Improved Circuit Breaker

A NEW safe, flashless device known as the AB "De-ion" circuit breaker developed to perform the function heretofore left to carbon circuit breakers or fuses, for use as a circuit protection in buildings, homes, theatres, studios or wherever electricity is used, has been brought out by the Westinghouse Electric & Mfg. Co.

A number of advantages over the fuses and carbon circuit breakers are claimed for these "De-ion" breakers. Unlike a fuse, the "De-ion" breaker has nothing to be replaced or renewed. It can be reclosed by anyone as quickly and easily as a switch. It cannot be held closed against an abnormal overload or short circuit, nor can it be blocked to prevent opening the circuit, and its rating cannot be changed by unauthorized persons. It also has a time lag preventing unnecessary tripping on slight, momentary overloads.

The device requires only about 70 per cent as much mounting space as a carbon breaker, and unlike the latter it opens a short circuit without flash or undue noise.

Enclosed in a molded composition box with no live parts exposed, the device consists of a handle, like that of a switch, that protrudes through the cover to provide means for manual operation and for reclosing the breaker after it has been tripped, but the remainder of the mechanism is entirely enclosed, the company claims.



New Solderless Lug Has Many Advantages

THE new solderless adjustable lug recently brought out by Hoffman-Spore Electrical & Engineering Corp. of New York is reported meeting with great popularity by users, owing to its adaptability to several different wire sizes and as a time saver in making connections of the lead wires to rheostats for motion picture projections.

The lugs, which are being offered in three styles, 1A, round terminal, 2A, round terminals, and 3A, for square terminal, are of extra heavy construction, adjustable and will accommodate any size wire from 4-B & 5 to a number 4-0 B & 5 with equal efficiency. An added feature is the support which prevents the lugs from becoming loose.



Microphone, Turntable Adaptable to Many Uses

A COMPLETE microphone and an electric phonograph turntable, adaptable to many uses in theatres, auditoriums, studios, etc., and said to be especially useful in making announcements of coming attractions and playing song numbers in theatres, is being marketed by the Mellaphone Corp. of Rochester.

The device, which is small and compact, can be readily connected to any sound system regardless of make, the company declares.

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Principles of Sensitometry and Their Practical Application

Part 12

FROM the time of Hurter and Driffield's proposed standard pyro developer down to the present time the standard developer for sensitometric purposes has been of the pyro-soda type. As a matter of fact until about four years ago a majority of all development in still and motion picture fields was carried out with some type of pyro developer. There is, however, one quite serious objection to the use of a pyro developer, and that is its staining effect. This effect was much more noticeable in developers in which the concentration of sodium sulphate was relatively low. This is caused by the fact that some of the reaction products, which the silver halide is converted into metallic silver by a pyro-soda developer, are strongly colored and are absorbed to a certain extent by the gelatin immediately surrounding the developed grains. As a result the developed image has a yellowish color and the amount of this color is practically proportional to the mass of silver produced. This yellowish stain which strongly absorbs the shorter wave lengths of light has relatively little effect upon the density of the deposit as measured visually. Since, however, most materials upon which prints are made, for example photographic papers and motion picture positive film, are sensitive chiefly to the blue and violet, the pyro stain has a very pronounced absorption to which these materials are sensitive and therefore the effective printing density values are not in agreement with those measured visually. As a result a negative developed in a staining pyro developer has appreciably greater printing contrast than is indicated by visual judgment or by visual density measurements. If it is desired to apply sensitometric measurements obtained with a pyro developer to practical printing problems, it is necessary to make a correction for this effect. This will be discussed in detail further on in these articles.

During very recent years the pyro type of developer has been used less and less in practical work and not at all in motion picture processing. It has been used to a slight extent in the development of amateur negatives. As a result of this trend a pyro developer ceases to meet the needs for standardized sensitometry. While considerable work has been done and many discussions held relative to a standard developer for sensitometry, it is not the purpose of this paper to deal too much with the theory of this subject so that we shall not enter into a discussion of standardized developers. It is sufficient to state that for the motion picture industry, at least the developers in use at each laboratory constitute the standards for that laboratory and it is with such developers that their individual sensitometry must be studied and practised. In general it may be considered that the best developer to use for any particular photographic material is that formula recommended by the manufacturer of the material in question. Furthermore, for processing control it should be remembered that it is not always sufficient to use a developer made up according to the formula adopted for practical work without taking steps to insure that this developer is effectively the same in its action upon the photographic material as that actually used. Practically all developing solutions begin to change their effective composition as soon as exposed materials are developed therein. A tank of developer in which a relatively large amount of photographic material has been developed

suffers sufficient change so that its action is appreciably different than when the developer is freshly compounded. The best way, therefore, to insure that the sensitometric results shall be a precise index of the action of the developer on the exposure material is to actually develop the sensitometric strip along with the material being processed, attaching the sensitometric strip in some way so as to insure that it is developed under the identical conditions to which the material to be controlled is being subjected.

Before becoming involved with too many details of the development processing it would be well to consider first some of the purely chemical aspects of developers and development. The light sensitive photographic emulsion consists primarily of a suspension of the silver salt in a solution of gelatin. Upon the exposure of the sensitive emulsion to light no visible action takes place, except upon intense exposure when a darkening of the emulsion can be observed to development. For normal exposures it is of course necessary to chemically reduce the silver salt into metallic silver. This chemical reduction is accompanied by the use of certain chemicals in combination and variations of the necessary chemicals provide an abundance of developer formulas. Every formula must contain the reducing agent, an alkali, a preservative, and usually a restraining agent. The reducing agent is usually an organic chemical such as pyrogallol, elon, hydro-quinone, etc. The alkali is usually sodium carbonate or borax. The preservative is sodium sulphite, while the restraining agent is potassium bromide or potassium iodide, or both. Their major action is to retard the growth of chemical fog. With these agents in proper combination almost any desired photographic result can be obtained on either positive or negative materials. In our next article we shall deal solely with the chemicals themselves and their action upon the emulsion during the course of development.

Suggest Lower Fee

H. T. COWLING, chairman of the membership committee of the Society of Motion Picture Engineers, announces that the Board of Governors have recommended a reduction in the entrance fees to \$10 for Active members and \$5 for Associate members.

"All applications received by the membership committee," said Mr. Cowling, "will be held subject to the reduced fee rate."

Officers of the society expect the reduced fee to open a wider field and to establish a more intimate contact with the motion picture industry as a whole.

French Government May Produce Films

THE French film industry may be faced with governmental competition in the near future. The Government has named a commission of five men to create a "Centre de Production Française Cinématographique." Delegates on the Commission are Messrs. Malvy, former minister, Patenotre-Denoyers, A. Lefas, J. L. Labrousse and J. Locquin. It is understood that the government plans a vast production organization which would make its own films with state funds and state backing, with power to call upon the actors and singers of the Comédie Française and upon the Ministry of Fine Arts.

New Rico Trunk Unit

(Continued from page 151)

the under side, the assembly is compact, with all leads as short as possible, carefully cabled and impregnated and shielded, where necessary. At the right hand side may be seen the fuse block, in which are mounted the fuses protecting all voltages.

Careful design of this amplifier has resulted in a flat characteristic from fifty to above eight thousand cycles, with an overall gain of one hundred and ten DB, and an undistorted output of plus eighteen DB allowing the widest range of operation under all conditions. "RICO" has a working agreement for the use of Loflin-White amplifier patents, issued and pending, and other patents, including noise reduction.

The noise reduction feature of the "RICO" Studio Model has not been included in the new Trunk Channel Junior Unit, for the reason that experience has shown that the added complications of noise reduction processing, in the average foreign studio, has proved too difficult to obtain results justifying this addition, at the present time. It has been proven that, with careful processing, a film can be obtained with a degree of quietness comparable to average so-called noise reduction, with this unit.

Sound Camera

The recording camera has been especially designed, after careful study, taking advantage of experience covering many different types of recording heads. A spring type mechanical filter provides the maximum sprocket drive motion efficiency and this large sprocket, engaging eighteen teeth in the film at all times, ensures perfect film motion past the recording slit. This large sprocket has been found far more efficient than a small sprocket, which engages approximately only four teeth in the film. Positive guide rollers hold the film on the sprocket, and are easily released for threading by a touch on trigger action top arms. The film drives a perfectly balanced, inertia roller type, fly wheel, which imparts an additional smoothness to its motion.

Throughout this entire head, machine tolerances on all drives and the sprocket do not exceed two tenths of one one-thousandth of an inch, and bearing surfaces are ample for continued use over a long period, without wear. All drives consist of non-reversible worm gears, using steel against a special fiber composition. The oiling problem has been eliminated and from one source all bearings receive the proper lubrication.

A train of gears drives the footage counter, while the tachometer is operated directly from the drive shaft, and provision made for belt takeup for either four hundred or one thousand foot magazines. A Westinghouse DC interlock type is used, to drive the sound camera in synchronism with one or more similar motors driving the picture cameras. Conventional starting and interlocking switches, and speed control resistances are provided, and mounted on the base.

Optical Slit

The "RICO" slit is the result of many years' development of glow lamp recording, and is not simply a glass wedge collecting device, but consists of an optical method of condensing and focusing the maximum light from the glow lamp onto the film with a negative track width of one hundred and sixty mils, and a beam thickness of less than one mil. This beam is obtained through the perfect grinding upon the correct optical axis of a pure crystal quartz, in which the back surface is ground in the form of a condensing lens, focusing the light upon an optical slit and cylindrical lens, which in turn conforms the beam to the required thickness of less than one mil, at the point of contact with the film. This optical unit is mounted in a contact shoe, over which the film passes at the proper point of the light beam, and with the slit in position, azimuth tests and frequency characteristics are checked, before release for operation.

Motor System

The motor system uses the standard DC interlock type motors, consisting of four pole, one twentieth horse power DC motors. At points one hundred and twenty degrees apart on the armature, leads are brought to three slip-rings. As these motors approach speed, the three phase alternating current generated across these slip-rings is paralleled with other units in the system, the three phase AC holding all in synchronism. One hundred and ten volts of direct current is required to drive the motor system, each unit drawing seven tenths of an ampere. For operation over short periods, standard heavy duty "B" batteries will provide sufficient power to operate the motor system, but where a prolonged operation is necessary, a twelve ampere-hour storage battery, or a light generator unit, is provided.



Sound camera in its carrying case showing compartment for magazines and spare parts.

Hand speed control, and a magnetic tachometer, have been found satisfactory for portable use, and under these conditions music recording of the highest quality has been obtained. To control the speed of the motor system in the "RICO" Studio Unit, a tuned speed control is provided which holds the system to a speed accuracy exceeding one one-hundredth of one percent, and though not provided with the Trunk Channel unit, this speed control is readily adaptable.

It has been the policy of "RICO" to include a complete list of spare parts with all units, and this list for the Trunk Channel includes a spare recording light, condenser microphone head, tubes, all motors, resistances, condensers and transformers, providing a maximum degree of safety for all eventualities.

This new unit has been designed with the view of complete operation by one man and with the sound camera placed on its case beside the amplifier and battery cases, all controls are within immediate reach for both the recording amplifier and the motor system.

All equipment is mounted in weatherproof metal clad ply wood cases, designed to withstand all the requirements of baggage transportation.

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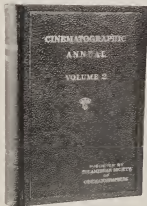
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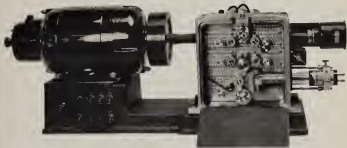
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Automatic Speed Control Motor



ONE of the most important announcements of sound motor improvement since the inception of the Direct Current Interlocking Motor comes this month from Art Reeves. Mr. Reeves, who is known as one of the most progressive technicians in the motion picture industry, is pioneering in this feature of sound recording much the same as he did in October 1930 when he announced and released to the trade, what is now known as the Direct Current Interlocking Motor.

The new Direct Current Interlocking Recorder Motor as here announced, has built into it an entirely new and practical feature, i. e., the Automatic Speed Control which will greatly increase the efficiency of the sound recording apparatus. This feature has been available for many months but with characteristic thoroughness, and a desire to present the speed control to the trade as a perfected and highly efficient adjunct to the Direct Current Interlocking Motors, has prevented Mr. Reeves from announcing it to the trade at an earlier date. After months of tests and observation and having in the interim worked perfectly on the production of several of the most successful current motion picture releases, the speed control has proven itself beyond a doubt and is here announced as a new and desirable addition to the "Arrivées" line of sound recording equipments. It may be seen on display at The

Hollywood Motion Picture Equipment Co., Ltd. 6416 Selma Avenue, Hollywood, California.

The principle of this new motor is not entirely new but its refinements and its application to sound recording has necessitated a long period of skillful engineering and experimentation to bring it up to the high standards required in sound recording.

This speed control consists in part of a governor which is built into the motor and keeps it at a set speed by the variation of the field current. It will not vary its speed under the regular load variations of the regular sound recording system. It has maintained a constant speed with voltages changing from 90 to 135 volts.

The speed of the motor can be varied while the motor is in operation by simply turning a knob at one end of the housing. The motor as illustrated has two sets of switches to handle two camera motors. There is no rheostat control because speed variations are now monitored automatically.

Unlike other types, this speed control has no parts to get out of order. It has no tuning forks or neon lights to watch, also no master motors. When once set at the proper speed it is not necessary to watch it for speed changes. It may be stopped and re-started, it will again come up to the proper speed without further adjustment.

S.M.P.E. Convention

WASHINGTON, D. C., has again been chosen by the Society of Motion Picture Engineers as the city for their Spring meeting. The meeting is held the first week of this month, and a long and attractive list of papers had been prepared by some of the outstanding technical experts of the country. The convention committee, consisting of W. C. Kuntzmann, W. C. Hubbard and M. W. Palmer, have been working for many weeks in preparing for the meeting, and advance reports indicated that one of the largest attendances in the history of the organization would be on hand. The Workman Park Hotel was selected as convention headquarters.

Thrill Air Films in 16 MM.

WHAT should prove to be one of the most interesting groups of 16 millimeter pictures that have yet been offered the owners of home projectors is a series of five air

pictures just placed on the market by the Hollywood Film Enterprises. This series of pictures of the air were made by one of Hollywood's greatest aerial cameramen, Elmer Dyer, A.S.C., third vice-president of the American Society of Cinematographers. Mr. Dyer has made some of the most remarkable air shots that have ever come out of Hollywood, having shot the air scenes for the "Lost Squadron," "Suicide Fleet," "Driftless," "Night," "The Dawn Patrol," and many other pictures. The same careful work has been put into these pictures which are now available to the amateur.

First Photocolor Feature

"MEMORY Lane" an original by Myron C. Fagan, will be the first of six color features to be produced by the Photocolor, it is announced by Frank E. Moser, president of the Livingston-on-the-Hudson color studios. Work starts May 1.

Amateur Movie Making

by WILLIAM STULL, A.S.C.

IT HAS long been axiomatic that "the camera cannot lie." Like most other such axioms, however, this is only a half-truth. The camera records faithfully what it sees—but it can be fooled into seeing things as they are not. Practically every professional picture made bears witness to this in some degree, some of them, like *The Lost World*, "Dr. Jekyll and Mr. Hyde," "Hell Drivers," and probably R.K.O.'s current "hush-hush" production *The Eighth Wonder*, could not have been made were the camera literally truthful. The most select and unpublicized group in the camera business is that handful of men—like Fred Jackman, A.S.C., Lloyd Knechtel, Roy Pomeroy, A.S.C., Frank Williams, and Carroll and Dodge Dunning—who specialize in trick and process cinematography. Every professional cinematographer, too, is called upon on occasion to practice some sort of cinematographic trickery in the task of photographing ordinary productions.

But trick cinematography need not by any means be restricted solely to professional workers. There are many tricks which may very advantageously be used by advanced amateur workers. 16mm equipment is, on the whole, designed for straight photography, but certain forms of trick work can now be done with it if guided by expert hands. But—mark this qualification—trick camerawork is not for the inexperienced or slipshod cinematographer.

16 mm. Trickery

The simplest trick is reverse-action. Professional cameras are almost invariably designed to be run either backward or forward; amateur cameras—with the exception of the Model A Cine-Kodak and the Cine-Nizo—are not, therefore reversed action must be secured by fooling the camera. This is simple enough for even the novice: all that is required is to turn the camera upside-down, and photograph the scene in the usual way. When the film is processed, the scene is cut out and replaced "heads up"—and, presto! there you have your reversed action.

Combining this with the possibilities offered by the multiple-speed movements of the de Luxe Filmo, Victor, Erizo, and Cine-Nizo cameras offers an interesting range of possibilities. Of course, in changing the speed at which the film moves through the camera, one must be extremely careful to compensate for the increased or decreased exposure. For instance, if a scene is photographed at a speed of 64 frames per second instead of 16, it stands to reason that the lens must be opened wider to allow for proper exposure; similarly, if the camera is slowed down to 8 or 4 pictures per second, or hand-cranked at still slower speeds, the lens must be closed down considerably to avoid over-exposure. In many cases, with Super-8mm film, it may be necessary to use a heavy neutral-density filter, since most cine lenses do not close down to adequately small openings.

The next trick—though it is really so simple as to be no trick at all—is the fade. This can be achieved in a number of ways. There are several devices commercially available for producing fades automatically, but they can be made manually as well. The fade is produced by diminishing the amount of light reaching the film until finally there is either none at all or not enough to produce an exposure. The fade-in is of course the reverse of this. Professional cameras are equipped with double shutters, whose blades may be opened or closed while the camera is running. Amateur cameras, as a rule, do not include such a device. Therefore, the amateur must fall back upon the method used by professionals before the dis-

solving shutter was developed, and make their fades with the lens-diaphragm. This, of course, necessitates a tripod and takes some little practice before the fades can be made smoothly. Due to the speed of modern emulsions, it is wise to use a fairly heavy color or density filter when making lens-fades. Naturally, the same filtering must be maintained during the entire sequence in which the fade is to preserve the same visual quality throughout.

There are, as previously stated, several devices made for producing fades, these range from the inexpensive "fading glasses" which are simply moved across the lens (quite a tricky proposition, that) to the more expensive automatic devices, which clamp on the lens and, by means of clockwork, produce fades of any predetermined length.

A relative of the fade is the iris (or circle) in and out. This is produced by an iris diaphragm mounted in front of the lens, which, when closed, gives the effect of the edges of the picture becoming black, leaving the picture as a circle in the center; this circle becomes progressively smaller until the whole screen is black. Several manufacturers produce these iris-shutters for amateur use. They are quite inexpensive, and, although the iris, as a professional effect, has been passe for some years, it is a far substitute for true fades in amateur films.

When using negative film, true fades can be made chemically, after the exposure and development of the negative.

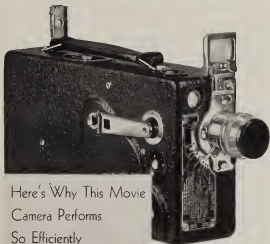
Lapped fades—known in this country as lap-dissolves, and abroad as blends—can likewise be made with amateur equipment, though their making requires rather more skill and precision. At the start of operations, the lens of the camera is removed, and a definite frame (or frames) marked. The lens is then replaced, and the scene and its fade-out made in the usual manner. Then the camera is removed to a darkroom illuminated only by a light that will not fog the film—green, for panchromatic emulsions, complete darkness is best! and the film rewound to the marked starting-point. The camera is then closed, and brought back to the scene of operations. It is set up, and run with the lens closed (preferably copped) until the exact start of the fade-out. This must be determined accurately, by counting as well as by the footstep-meter, which latter is often inaccurate for such precision work. Then, when the start of the previous scene's fade-out is reached, a fade-in is made, utilizing exactly the same footage. The effect is one scene bleeding into the other.

Double-Exposure

Once the technique of the lap-dissolve is thoroughly mastered, double-exposures may be tried. These involve the same marking of starting-points, rewinding, and timing by counts. In addition, they require that the action be timed by the same counts; that is, the actors must understand that they must perform certain actions coincidentally with certain of the cameraman's counts.

In order to make the two exposures, without having the background of each show through the actors of the other, parts of the field must be masked off. This is best done by the use of some sort of matte-box or effect device, by which the matto can be placed a short way in front of the lens. The matto may be made of cardboard, and cut out in any shape required; the mattoes must, of course, be exactly complementary. The simplest type of double-exposure to begin with is, of course, the split-screen, in which the mattoes divide the screen

(Continued on page 36)



Here's Why This Movie Camera Performs So Efficiently

EXPERIENCED movie amateurs—the world over—regard Ciné-Kodak, Model K, as the standard of value and picture making performance.

The "K" is smartly trim in appearance. Light and easy to carry. Convenient to hold. Its sturdy, dependable motor is always ready for action.

Model K has two finders. One at eye-level provides full vision without squinting. The other is a reflecting finder useful for shooting subjects close to the ground.

The lens can be either an $f/3.5$ or $f/1.9$. Both

are true anastigmats and will perform efficiently along the full range of diaphragm stops. There's an interchangeable lens feature that permits you to shift instantly to a Wide Angle or Telephoto Lens. Loaded with Super-sensitive Kodachrome Film and equipped with a Kodachrome Filter and an $f/1.9$ lens, Model K, makes full color movies.

Your Ciné-Kodak dealer will gladly show you the "K" and some of the movies it makes. Price, with $f/1.9$ lens, \$4.50; with $f/3.5$ lens, \$3.10. Carrying case is included. Eastman Kodak Company, Rochester, New York.

Ciné-Kodak—Simplest of Home Movie Cameras

Color Films

by **WM. S. VAN DOREN**

Du Chrome Film System, Ltd.

NEGATIVES are most satisfactorily produced by means of the DuPack. Any camera may be used. Both Bell & Howell and Mitchell, however, have made changes in their camera gates so that excellent contact between the two negative films is held. Good contact means good color prints.



All other methods of producing non-fringing negatives involve the production of special optical systems for making the negatives and, of course, special cameras.

Double sided positive has a celluloid base coated on both sides. This enables you to make, in the simplest way, duplicate prints. The film stock may be purchased from any of the prominent film makers.

The most essential requirement, at this stage, is a means for printing from the negatives on to opposite sides of the positive in register. Special Dupre printers may be purchased or printers altered to give registration. The simplest way is to have the feed pins also act as dowels and preferably finish feeding the film to the gate at the gate, and not away from the gate. To do this, have one feed pin fit snugly the register perforation and the other pin fit up and down but narrow to allow for shrinkage sideways. If the printer has two printing windows, have the full feeding pins on opposite sides. There being but one sprocket hole in the negative that can give best registration, it is necessary to use the same perforated hole for that particular printing machine. The registration dowel in the camera, thus registers in the negative well, owing to the negatives being reversed, print on opposite sides of the two negatives.

This, for example, will require that the red or near negative be printed with the full fitting pin on the left and with the front or green negative that the printing be done with the full fitting pin on the right, where the emulsion side is towards you.

With such a printer, or a light tablet tester, make a graduated print for each negative and after coloring, sliding one over the other will determine which angles give the most suitable combination. This determines the light to be used when printing the lengths.

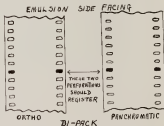
The double sided film now having an image on each side, one representing the red values and the opposite side the green blue values, is developed and colored. The record from the red or near negative is colored blue and the record from the green blue is colored red.

The simplest method is to use metallic tones of which uranium is used for red and iron for blue.

If the blue iron tone is produced first, it may be put into the red tone without affecting the color of the tone. But do not reverse these steps as the blue bath will alter the red coloring on the film to green. This is like saying that if you let it stand, it will turn to wine. Advantage has been taken of this fact by Waddingham in his U. S. Patent No. 1,633,652.

The first step is to develop the double sided film as you

would for single sided film. It is necessary at the beginning of operations to tone blue the images made from the red negative without touching the opposite side of the double sided film. This may be done in many ways, as with rollers and daps, but probably the simplest is to float the film through a trough. The patent strength of this invention, Mason U. S. No. 1,348,029, has not been settled but it should be free to most users in countries foreign to the United States.



Assuming that you use a trough, then apply to the side printed from the reds a bath composed of

Iron and Ammonium Oxalate	56 Grammes
Hydrochloric Acid	20 Ccs
Potassium Ferri-cyanide	20 Grammes
Water	4000 Ccs

and from then forward the film may be immersed in a hypo bath, then washed, then into a bath which colors the side having the silver record from the front or blue green negative to red and may be compounded as follows:

Potassium Oxalate	10.8 Grammes
Uranium Nitrate	29.7 Grammes
Potassium Ferri-cyanide	9 Grammes
Hydrochloric Acid	10 Ccs
Water	4000 Ccs

It is again fixed, washed and dried. Also it is desirable to wash the film for the reason that if the film is rolled up and any moisture present, the blue side will convert the red side and cause the color to fade.

The positive print is now ready to project.

Sound, on motion picture prints, is usually toned on the blue side. Leave space for sound print, as usual on a continuous printer, having a strip of celluloid run with it to protect the emulsion on the double sided film.

Many changes may be rung into the red and blue tones, their adjustment being made to the location where used, nature of water used, and so on.

For making tests of this method, motion picture strips with double sided pictures may be tried out by placing the blue tone in a pan and toning one side only. Thereafter following the steps as outlined.

Life History of the Honeybee Recorded in Motion Pictures

MANY plants would fail to seed and many orchards fail to bear fruit but for the work of bees. The honeybee, sole manufacturer of beeswax and honey, is even more useful to man as nature's most active agent in cross pollination. These are two of the facts revealed in "The Realm of the Honeybee," a new silent educational film in 4 reels, sponsored by the Bureau of Entomology, Division of Bee Culture, and produced and distributed by the Office of Motion Pictures, U. S. Department of Agriculture.

In 1922, the department produced a one-reel film, "Bees—How They Live and Work," which is still being distributed. So popular has it proved that this more comprehensive film on the Honeybee has been made. The new film not only shows many activities of this useful insect but corrects some wrong impressions. We learn, for example, that bees do not sting for pasture, but only in defense of the hive, and that when a honeybee loses her sting she loses her life, literally laying down her life for the colony. We also learn that honey can not be manufactured by man—that the bee alone has the recipe for making it.

Most of the scenes were made at the Government apiary at Somerset, Maryland. The cinematography includes some unusual closeups of bees at their ordinary tasks. The film closes with suggestions as to various ways of using honey.

"The Realm of the Honeybee" is a silent film in 4 reels, running time about 50 minutes. Prospective borrowers should apply to the Office of Motion Pictures, U. S. Department of Agriculture, Washington, D. C. There are no rental charges, borrowers paying only transportation to and from Washington.

So great is the demand for the educational films in the department's film library that arrangements have been made by which schools, colleges, organizations and individuals under certain conditions, may purchase copies made from the department's negatives at the cost of about \$30 per 1000-foot reel on standard-width (35 mm.) slow-burning stock, or \$10 per reel on narrow-width (16 millimeter) stock.

University Students Present Unique "Talkie"

A UNIQUE "talkie" is being presented by a group of students of the University of California. A 16 mm. feature film of two 400-foot reels, entitled "Black Revenge," was first produced by the students without sound recording. This picture is now being shown to the accompaniment of dialog spoken by the members of the cast in person, together with other sound effects. The sound is received by a radio microphone placed in a room adjacent to that in which the picture is shown and from which the screen may readily be seen. The microphone is hooked up with a regular table sound amplifier and speaker system.

After a few rehearsals, we are told, the students were able to achieve with this set-up synchronism comparable to regular sound recorded film.

The first showing of the "talkie" was in the nature of a preview given in the auditorium of the new Bell & Howell building in Hollywood. The occasion was a gala one, and so great was the demand for tickets that a repeat performance was necessary. The picture is a travesty on the old-time melodrama and has all the regulation characters of this type of vehicle—the brave but inexperienced young hero, the suave unscrupulous villain, the hard-drinking father and the sweet young daughter.

The picture has been booked by various organizations, including the Los Angeles Amateur Cine Club. The students responsible for "Black Revenge" are planning a second picture for the near future.

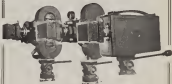
Professional Effects

on 16 mm. with

H. M. S.

COMBINED

SUNSHADE, MATTE BOX and FILTER HOLDER



and HARRISON
H. M. S.
FILTER SETS

Professional Quality 2" Square Color and Effect Filters

Much of the beauty of professional films is due to the use of special color and effect filters which, although commercially available, could not be used with 16 mm. cameras for want of a proper filter-holder. The H. M. S. matte box takes the standard professional two inch square glass filters. These provide not only the more familiar color-correction of the well known "K-series" of yellow filters, but also a wide variety of special effects, such as moonlight and night effects, fog effects, diffusion, and light and dark iris effects that have hitherto been impossible for the amateur cinematographer. The H. M. S. matte box is designed to take two of these filters simultaneously, permitting many combinations of color-correction and diffusion, color-correction and special effects, etc.

The H. M. S. matte box will fit any standard 16 mm. camera. It is mounted directly on the lens, and held in place with set-screws and special fittings, so that while in use it is rigidly in place, but instantly detachable. It can likewise be fitted to a number of semi-professional 35 mm. cameras, such as the Eyemo, de Vry, etc., and to still cameras whose lenses do not exceed 1 1/2 inches in diameter. It is important, in ordering, to inform us as to the camera, lens-equipment, and lens-mounts with which the matte box is to be used. Price \$7.50. A small extra charge is made in cases where the matte box is to be used with more than one lens, or where it is to be fitted to 35 mm. or still cameras or special lenses.

HOME MOVIE SCENARIOS, INC.

1220 Guaranty Building Hollywood, California

Los Angeles Amateur Cine Club Invades Studio



International News Photo

♦ The night of April 11th was a humor evening for the members of the Los Angeles Amateur Cine Club. The meeting was held at the famous Fox Film Studios on Sound Stage No. 1. Studio electricians were on hand to furnish the lighting, and players from the Fox Organization were present as photographic

subjects. Members brought their cameras and "shot" to their heart's desire. A prize will be presented at the May meeting for the picture made at the Fox studio that evening. The April meeting was arranged by K. H. Rafke in behalf of the National Theatre Supply Corp.

Dramatize Your Home Movies . . .

Stop aimless "shooting" and make real motion pictures !!

Complete Scenarios which enable you to make perfect photoplays with your own group—family—friends or club are now available at a very reasonable price. These scenarios have been prepared by professional writers, directors and cameramen. Every detail has been carefully worked out. All you have to do is

DIRECT and PHOTOGRAPH the PICTURE

These scenarios are furnished for 400 ft. features or 100 ft. shorts. With each H. M. S. Scenario are included a scene numbering slate and a complete set of art titles on 16 mm. films, with full instructions.

Prices: 400 ft. Features, \$15.00

100 ft. Featurettes, \$6.50

Write for Complete List of Stories

ART TITLES

Single exposed, double exposed on art backgrounds.
Prices on request

EDITING

For pictures from our scenarios \$5.00
All other editing \$2.50 per hour

HOME MOVIE SCENARIOS, Inc.

1723 Guarinly Bldg.

Hollywood, California

New Home of Hollywood Camera Exchange



THE Hollywood Camera Exchange now boasts one of the finest photographic equipment establishments in the west. Their new quarters, opened early in April, are located at 1600 Cahuenga Avenue, in the heart of Hollywood.

The growth of this Camera Exchange has been remarkable. Only two years ago Cliff Thomas and Arthur Reeves started it, and immediately this pair of veteran cameramen met with success. The original store was expanded, but still more room was needed. Their new store is extremely attractive and contains anything that either professional or amateur cinema-

tegraphers might desire, as well as a complete stock for the still photographer. There is a machine shop for repairing of all kinds and for experimental work. Two dark rooms are at the disposal of customers, and there is a projection room equipped for both 35 and 16 millimeter picture projection. The Exchange is becoming widely known as the place where the amateur may meet the professional, and amateurs visiting Hollywood are invited to use the facilities of the Exchange while they are in California.

Victor Introduces Pocket Titler for Victor and Filmo Cameras

NOW you can "Title as You Go." The new Victor Pocket Titler, just announced, is so small, light and compact that it may be slipped into the coat pocket for use in making titles between scenes any place at any time.

It is felt that the Victor Pocket Titler will appeal particularly to movie makers because of the ease with which titles may be made with it, and the fact that it may be carried about without inconvenience.

The elements of the Pocket Titler are collapsible and when not in use, it folds up much like a cigarette case. Closed, the outside dimensions are 1"x4 1/4"x7 1/2" and it can be carried in your pocket easily.

Setting the Titler up is only the work of a moment. The camera rest consists of folding standards which are shaped for the camera in such a way that it is not necessary to adjust or fasten the camera in place. Titles may be made indoors or out with the pocket Titler. Artificial illumination is not required in daylight out of doors or inside near a window. When artificial illumination is required, it is only necessary to hold a lighted bulb above and near the front of the camera during operation.

It will be seen from the construction of the Pocket Titler that the opportunity is afforded for obtaining a variety of effects. Any kind of background desired may be employed. Titles on long strips may be slowly pulled through the card holders to give a running effect. 3 1/2"x4 inch Photographic



Prints or clippings may be used as backgrounds. Translucent effects may be obtained with back lighting through an opal glass used in the holder. Small objects, insects, butterflies, leaves, flowers, etc., may be employed to advantage for achieving interesting results.

Good titles are absolutely essential if one's films are to contain the interest-holding value that will make them appropriate and desirable for showing outside the family group. With the new Victor Pocket Titler, title making should cease to be a problem and a tricky job, and become instead, a simple, easy, pleasant pastime. The Pocket Titler is available in 20 mm. and 1 inch lens models for both the Victor and Filmo cameras.

Amateur Movie Making

(Continued from page 30)

into vertical halves. This mastered, more complicated matters may be essayed, dividing the screen into quarters, etc., or mating off irregularly-shaped portions.

Ghost effects may be made by the same method: the ghost or vision being photographed against a dead black background—velvet or heavy black flannel or felt is best. This sort of thing is best photographed indoors, by artificial light and the lighting must be so arranged that no light falls on the back-drop. This type of double-exposed shot does not, naturally, require masks, for the background should be seen through the ghost.

All of these effects are best secured by cameras that permit focusing the full aperture either on the film or on a ground-glass screen, with the lens in exactly the location used in photographing. Naturally, a tripod must always be used. In matted shots, the tripod must not be moved between the two or more exposures.

If the amateur is possessed of artistic talent, or can command it, matte shots of the type described by Fred Sersen, of the Fox Studio, in the last volume of the Cinematographic Annual, are possible. Similarly, human action may be double-exposed into miniature sets and documentary films showing actions that are to be compared, side by side, can also be made.

With cameras such as the Model A Cine-Kodak, which can be adapted to take two films simultaneously, it is theoretically possible to make travelling-matte shots, as outlined in Gordon Chambers' article on "Process Photography" in the same book. This work will, however, be extremely difficult, and exacts the utmost precision from both the camera and its operator.

With the new Super-Sensitive emulsions, and the new and more powerful projection-lights, it is possible, too, to attempt projection cinematography; projecting the animated background on a large screen behind the actors, (projecting from the back of counsel), while photographing the combined action with a synchronized camera in front. To do this, one must have a hand-driven camera, and drive it with a special electric motor electrically synchronized with the projector-motor, so that the shutters of camera and projector are both open and both closed at the same time. Naturally, this involves considerable rebuilding of both camera and projector, and considerable expense, but it is entirely possible, and can be productive of very interesting—and otherwise impossible—effects.

Animation and Other Trickery

Animation has been discussed in these columns several times. It involves merely the exposing of one frame at a time. By its use, drawings, toys and dolls can be made to move in apparently lifelike action. Similarly, the progress of a building, the growth of a plant, or any similar action can be photographed so as to make the actually slow process apparently unfold our eyes in a few minutes on the screen. This is done by making one exposure—one frame—every so often. It can be done by hand if the action is relatively short, or by an easily-built mechanical escapement if the actual time elapsing is long. The interval between the exposures must be governed by the actual growth or progress of the subject and the length of screen time desired for the completed film.

Miniatures

In professional films, much action, such as train and auto wrecks, etc., is photographed in miniature. This can be done equally well with amateur cameras. However, the problems of scale, speed, etc., are quite intricate. As a rule, toys—even the best—cannot be used. Miniature work requires scale models that are extremely accurate reproductions of the actual thing, and of course, miniature sets that are scaled to the same proportions as the models. The lenses used and the speed at which they are photographed, must be perfectly proportioned to the miniature used. High-speed is frequently

preferable, as it tends to smooth out the action. The subject of miniature cinematography is rather too intricate to be adequately discussed in the limited space here available, but it was quite fully discussed in "The American Cinematographer" (November, 1931) by Don Jarius, of the R-K-O miniature department.

Optical Effects

Last, but not least, a tremendous range of effects can easily be produced by the use of optical accessories—distorting prisms, and the like—placed in front of the lens. By their aid you can make the camera see double or treble, see things distortedly as in a nightmare, or (for stealing interesting action) see around a corner, at right angles to the way the lens is pointed. Some devices for these tricks may be purchased ready-made from various camera manufacturers, but these devices are only the beginning, for one can easily make others up from standard prisms, etc., available at any optician. Their use is bounded only by the ingenuity of the cinematographer, and by the requirements of the scene or story. But—one final hint—don't exceed the limits of good taste in their use. After all, the important thing in any motion picture is, not the trick effects in it, nor even the way they are employed for dramatic effect, but the story itself, and the expertise of the cameraman in so perfectly photographing that story that the story, and not the photography is the center of the audience's interest.

First International Exposition for Artistic Photography

THE First International Exposition for Artistic Photography, to be held in Lucerne from July 23 to August 21, promises to be a most important event. It will be the first international manifestation of its kind ever arranged and as such it is certain to be of interest to amateur and professional photographers all over the world.

The Lucerne exposition has the purpose to acquaint the international public with this lovely Swiss tourist metropolis with the progress made in the field of artistic photography. It will moreover afford an opportunity to all parties interested to display their own photographic achievements.

Information regarding conditions of admission and all further particulars are contained in a specially prepared program which may be had free of charge from the Secretariat of the First International Exposition for Artistic Photography at Lucerne. The time limit of admission is July 10.

Russia to Emulate Hollywood Methods

THE Soviet government is planning to recognize the production of Russian films along Hollywood lines. It will construct a central production plant in the neighborhood of Moscow. Two million rubels have been allowed for this purpose. It is reported that Pudovkin will have charge of the project. It is officially reported here that the two new film plants built in Moscow last year are now turning out 60,000 meters of raw stock daily, and that the output is to be doubled during the current year. It carried into effect this will make Russia independent of foreign countries for its supply of new film stock. When the two plants are enlarged they will be capable of turning out enough raw film to supply Russia's requirements which is about 40,000,000 meters a year.

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Vol. 2

Cinematographic Annual
NOW!

Announcing... Another

valuable equipment

PRIZE

in the

**American
Cinematographer**

\$1,000.00

**Amateur Movie
Contest**



Above is the equipment prize awarded on this page

The AMERICAN CINEMATOGRAPHER takes pleasure in announcing to all Amateurs that

Meteor Photolight Company

will present to the winner of FOURTH cash prize the following valuable lighting equipment. A Meteor Double Photolight complete with two 500 watt NERON bulbs, retail price, \$30.00, a Meteor Photolight Tripod model, complete with NERON bulb, retail price, \$18.00, and a Meteor Photolight Table model, complete with bulb, retail price, \$13.50. Value of prize, \$61.50.

No restrictions whatever are attached to this prize. It goes unconditionally to the winner of the FOURTH cash prize of \$100.00 which will be presented by the AMERICAN CINEMATOGRAPHER. This makes the value of fourth prize \$161.50. Here is an opportunity to secure a complete home lighting equipment at no cost, a prize well worth trying for. The high quality of the lighting equipment made by the METEOR PHOTOLIGHT COMPANY is well known.

•

THE CASH PRIZES IN THIS GREAT CONTEST ARE

First Prize, \$500.00

Second Prize, \$250.00

Third Prize, \$150.00

Fourth Prize, \$100.00

TURN TO THE NEXT PAGE FOR FURTHER PRIZE ANNOUNCEMENTS

ANNOUNCING...



The H. M. S. Matte-box, mounted for use on a 16 mm. Victor camera

*Two Additional
Equipment Prizes in the*

**AMERICAN
CINEMATOGRAPHER**

\$1,000.00

Amateur Movie Contest

The American Cinematographer takes pleasure in announcing to Amateurs that two more prizes have been added in this contest. They are:

Home Movie Scenarios, Inc.

Offers two prizes as follows: To the winner of first prize of \$500.00, one Scenario (choice of entire group), one H.M.S. Matte-box, choice of any H.M.S. Filter, and one H.M.S. Scene Slate. To the winner of second cash prize of \$250.00, one H.M.S. Matte-box and choice of any H.M.S. Filter.

In case the picture winning first prize is made from an H.M.S. Scenario, an additional cash prize of \$100.00 will be paid by Home Movie Scenarios, Inc. If second prize is made from an H.M.S. Scenario, an added prize of \$50.00 will be awarded; and an added prize of \$25.00 will be given winner of third prize if made from an H.M.S. Scenario.

Other equipment prizes that will be presented in this contest, in addition to the four cash prizes, totaling \$1000.00, are: two prizes from the BELL & HOWELL Company. First—a choice of a Filmo 10 D.A. Camera or a Filmo Model J. L. Projector. Second—a choice of any standard Cooke Telephoto Lens. From the EASTMAN KODAK COMPANY a Model K Cine Kodak, with a f1.9 lens, complete with carrying case. From MAX FACTOR MAKE-UP STUDIOS, a Max Factor Make-up Kit, completely equipped with every necessary article of make-up needed by the amateur. From METEOR PHOTOLIGHT COMPANY A total of \$61.50 worth of lighting equipment.

For Further Details of this Contest See Opposite Page

YOUR OPPORTUNITY!

The AMERICAN CINEMATOGRAPHER now offers the greatest opportunity ever given the AMATEUR MOVIE MAKER to win recognition and cash. A total of **\$1,000.00** in CASH prizes is offered by this magazine to the winners of the Amateur Movie Making Contest announced in the October issue. This contest is sponsored by the American Society of Cinematographers, an organization composed of the world's leading professional motion picture cameramen. If you want to win recognition, as well as cash, read the rules below and send your entry. (See opposite page for additional equipment prizes)

COMPLETE RULES OF THE AMATEUR MOVIE MAKING CONTEST

The American Cinematographer will present a prize of \$500.00 for what its judges consider the best 16 millimeter or 9 1/2 millimeter picture submitted in this contest. \$250.00 will be given as second prize, \$150.00 as third prize, and \$100.00 as fourth prize, a total of \$1000.00 in prizes.

This contest is open **ONLY** to AMATEURS. No professional cinematographer will be eligible to compete. It is a contest solely for the amateur, either the individual or the club.

The contest officially opens November 1, 1932. The contest ends at midnight of October 31, 1932. All pictures must be entered by the closing date or they will not be considered. Entries mailed or expressed bearing the date of sending will be accepted if they reach THE AMERICAN CINEMATOGRAPHER office after October 31, 1932, providing the date shows they were sent before midnight of October 31, 1932.

Pictures submitted in this contest will be judged upon photography, composition, direction, acting, cutting and entertainment value. And only silent pictures will be eligible for the contest. The judges, whose names will be announced later, will include outstanding and widely known Cameramen, Directors, Actors, Writers and a group of nationally known Motion Picture critics from some of the best known newspapers in America.

The decision of the judges will be absolutely final, and there can be no appeal from their decision. Announcement of the awards will be made as soon after

the close of the contest as possible and checks will be mailed the winners.

Pictures may be submitted either by individual amateur movie makers, or they may be submitted by Amateur Movie Clubs. However, they **MUST** BE photographed on 16 millimeter or 9 1/2 millimeter film. Accompanying each entry must be a sworn statement to the effect that no professional cinematographer assisted in the making of the picture. No picture will be accepted which was photographed on 35 millimeter film and then reduced to 16 millimeter.

This contest is open to amateurs and amateur clubs anywhere in the world, with the following conditions:

Only Best Fide Subscribers to the American Cinematographer Can Compete

If you are a paid-up subscriber to THE AMERICAN CINEMATOGRAPHER you are eligible to enter the contest. If you are not a subscriber just send in your check for a year's subscription and you are eligible.

In the case of Amateur Clubs the following rules apply.

If a club with a membership of 20 or less wishes to enter a picture, the club will have to have a minimum of 5 subscribers among its members. Any club with more than 20 members will have to have a minimum of 10 subscribers among its members. For any further information you may desire, write the Editor of the American Cinematographer, 1222 Guaranty Building, Hollywood, Calif., or consult your photographic supply dealer.

IF YOU WISH TO ENTER THIS CONTEST AND ARE NOT A SUBSCRIBER, MAIL COUPON TODAY

American Cinematographer, 1222 Guaranty Bldg., Hollywood, Calif.

Enclosed please find Check, or Money Order, for \$3.00 (34.00 foreign) for which kindly enter my subscription to THE AMERICAN CINEMATOGRAPHER for one year:

Name

Address

It is understood that this subscription makes me eligible to enter your \$1000.00 Amateur Movie Contest



CARL ZEISS LENSES

for
Cinematographers

Tessart F/2.7,
F/3.5, F/4.5

Victors
F/1.4

Cinematographers throughout the world are using Zeiss Lenses because of the assurance of perfect definition and brilliancy.

Whether for indoor or outdoor shots . . . with simple or elaborate settings . . . your Zeiss Lenses will give accurate and vivid results.

No camera can be better than its lens. And Zeiss Lenses are as perfect as human hands can make them.

CARL ZEISS, INC.
485 Fifth Avenue, New York
726 South Hill Street, Los Angeles, Calif.

Two New Cameras Announced by Victor At Reduced Prices

KEEPING in step with the present-day trend toward greater values and reduced prices, the Victor Animatograph Corporation, makers of the Victor 16 mm. cameras and projectors, announces two new 16 mm. cameras to its line at new prices far below any former Victor figures. The cameras are Model 3 and Model 5.

On the Model 5 Victor (the original visual focusing, 3-lens turret 16 mm. camera) there has been a reduction of approximately 22½ percent in price. All of the previous features of the Model 5, such as Visual Focusing, 5 Speeds, 3-Lens Turret, etc., have been retained. The new features are Attached Winding Crank, which may also be employed for hand cranking, Graduated Adjustafinder for accuracy in "focusing" and centering the image at different distances, combination Visible-Audible Film Footage Meter of extreme accuracy, Film Loop Guard which makes it impossible to lose the film loop, regardless of the thickness of the film or length of time the loop has "set" in the camera, Improved Collapsible-carrying handle, Rich Gold-Plated Brown Lava Finish with satin Black and polished chrome trim and appointments. Standard lens equipment on the Model 5 Camera is the 1", F 2.9 Hugo Meyer Trioplan. Any selection of 3 lenses that the purchaser may desire can be supplied at the price of the camera plus the published list prices of the selected lenses.

The Model 3 Victor, which was the first 16 mm. camera to be equipped with multiple operating speeds, including slow motion, is being offered with the new collapsible-carrying strap, chrome plated chain-attached crank and crank clip, and with 20 mm. F 3.5 Fixed Focus Dallmeyer Lens at a price reduction of nearly 35 percent.

Both the Model 3 and 5 Victors can be supplied with any choice of lens or lenses that the purchaser may specify. Lenses of all makes, speeds and focal lengths are interchangeable on the two instruments.

Kodachrome movies may be made with either the Model 3 or 5 Victor Cameras when equipped with the proper lens and the Kodachrome filter assembly.

For Authentic Information Read the Annual!
Order Your Annual NOW!

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Tel. GL 2307 HO 9451
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Open 11 a. m. to 10 p. m.



The New Leica Camera Model D

AUTOMATIC focusing control for the LEICA Camera! A new model Leica with built-in range finder and automatic focusing lens has been introduced by E. Leitz, Inc., New York City. This new camera presents the most revolutionary development in camera manufacture since the introduction of the first Leica Camera.

The range finder, previously a separate instrument, is now built into the camera itself and by an ingenious connection of the finest precision this range finder is actuated by the helical focusing mount of the lens. When taking a picture the subject is sighted through the range finder eyepiece, situated immediately to the left of the view-finder opening at the rear of the camera. Two images of the subject will be seen, and as the mount of the lens is turned the images will appear to separate or approach coincidence. When coincidence is established the lens is automatically in focus. The release then is pressed with every assurance of getting a perfectly sharp picture.

In appearance the new Leica, known as Leica Model D, does not differ greatly from the previous models. The range-finding mechanism is contained in a black metal housing on top of the camera, extending from the shutter dial to the rewind knob. The view-finder refers its position and from the front is flanked by the two small openings for the range-finder. The dimensions of the Leica are unchanged, and there is no appreciable increase in weight.

The new Model D Leica has all the focusing advantages of a reflex camera, with none of the bulk, and retains all the typically characteristic advantages of former Leica models. The range-finder, although shorter than the ordinary meters, is even more exact. Images are brilliant and clearcut and easily distinguished. The subject is either precisely in focus or obviously out of it—a fact not so easily determined in the reflex or ground-glass type of focusing camera, where sharpness falls away gradually. Where extremely rapid work is being done the range-finder may be used as a view-finder by focusing on the center of the subject and pressing the release as soon as coincidence is established.

For sport work, rapidly shifting street scenes or photography of children the new Model D Leica is admirable. Moving objects are easily followed and kept in sharp focus up to and through the instant of exposure. The combined shutter setting and film winding feature, found on all Leica Cameras, in conjunction with the new principle of automatic focusing offers the same of camera simplicity.

Re-winding of the film into the magazine also has been simplified in the Leica Model D by making the re-wind knob to be pulled up clear of the camera body for turning.

A new booklet is available from E. Leitz, Inc., 60 East 10th St., New York, N. Y., giving complete information about the new Model D Leica Camera.

★

Production in Vienna is Getting Under Way

NEGOTIATIONS between German and Austrian producers of films are reported to have reached a successful conclusion. The Berliner Polyteatrophil will soon start a production at the Sacha studios, in association with the Viennese company, Wiener Lichtkino Kopplmann. The Sacha studio has been leased for several months. Lamac-Orndt started filming a comedy there only in April, cooperating with the Viennese firm, Hugo Engel. The Wiener Mondal announces two productions, one to be a super. Kiba is renovating the Vitz studios and expects to begin production there by June. Improvements are under way at the Schoenbrunn studios.

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LITERATURE ON REQUEST

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The Miniature Camera

(Continued from page 17)

Gratlex and its slower lens. This of course robbed the little camera of much of its thunder. The few real negatives that I obtained proved to me that the miniature camera was my ideal.

The next camera to venture into the miniature field was the Leica. Due to its revolutionary type of construction and to the first attempt of a manufacturer to specialize in miniature camera equipment from the taking of the picture to the finished enlargement, it was an immediate success. Strange as it may seem the Leica did not enjoy its greatest success in Hollywood. It was not until the Model "C" Leica with its interchangeable lenses arrived, that the Hollywood cameramen became aware of its existence and the fact that thirty-six pictures could be made on five and one-half feet of motion picture film. With the advent of super-sensitive panchromatic film the Leica was of still greater value to them. Here was a means of finding out something about the strange film whose filter factors did not run "according to Hoyle." With the little camera it was very easy to test any filter or group of filters in a few minutes. It was easy to find out just how fast this new film really was and how it behaved out-of-doors in various kinds of light. These tests, you might say, were for personal information and might not have been made were it necessary to use a large motion picture camera. The film could be processed by the laboratory in the usual manner and due to the size of the image, the results could be better ascertained than by looking at standard size motion picture frames.

Now you will understand why it is so hard to buy a second hand Leica in Hollywood. When a dollar will buy enough short ends of the finest kind of panchromatic film to make about seven hundred pictures and when accessories and improvements are being added to the Leica fast enough to keep even the most jaded cameraman enthusiastic, what more can you ask of the miniature camera?

I can well imagine the astonishment many people will have when they hear of the latest improvement that has been added to the Leica camera. There seems to be no rest for the designers of miniature equipment. The new Leica will be known as the Series II. Its outward appearance and size is about the same as the model "C." The chief difference is that the range finder is built into the camera. You now obtain the correct focus by looking through the range finder and moving the lens in the focusing mount until the two images in the finder coincide. The lens is then in the exact focus of the object focussed upon. Lenses are still interchangeable and the stereo-adaptor may still be used. With this new improvement it is now possible to watch the correct focus of the object you are photographing as with a reflex. You can imagine how valuable this feature will be to those who wish to make candied pictures as well as other kinds.

A word of description about some of the other miniature cameras. The Roliflex, the Pilot, the Kolibri, the Derby, the Pupille, the Ranco, the Mankreute, the Photo Chic and others make sixteen pictures (except the Roliflex which makes twelve) on a roll of vest pocket film which sells for twenty-five cents. These little negatives vary in size from 1 1/2 x 1 1/8 inches to 1 x 1 1/2 inches and all make splendid enlargements. The most of the cameras are fitted with fast lenses (f:3.5 and faster). The Roliflex and the Pilot are of a reflex type with twin lenses. The mirror is in a fixed position and it is always possible to see the image in focus and through a wide-open lens.

The miniature camera offers a means of making many pictures inexpensively thereby allowing you to enjoy your camera more. The miniature camera is by no means a toy. It is thoroughly professional in every respect. Some of the enlargements made from the negatives of these little cameras I am confident will astonish you. If you are still using a large camera, visit your nearest photographic supply house and see this Rip Van Winkle who has returned, with a new set of glands, the MINIATURE CAMERA.



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Character Make-Up

(Continued from page 9)

artist or the actor, but to help to tell the story. Therefore the makeup must not be obviously "makeuppy." This in turn demands that the makeup be supervised by a qualified makeup artist, for the actor—no matter how skilled he may be in the technical details of applying his makeup—rarely has the right perspective to enable him to judge the makeup without bias. Some few actors there have been, of course, who have proven themselves artists in makeup as well as in acting. Lon Chaney was one, and Emil Jennings another, but even these frequently erred for lack of the detached, impersonal viewpoint. Therefore, it has always been my policy, for the protection of the actor quite as much as for the protection of the studio and myself, to insist that I supervise all such makeups, regardless of the ability or importance of the player. In practice this has worked out to excellent advantage, for if the player was not skilled in makeup, I have had a free hand, and if he was I have had a capable and doubly interested fellow-worker. When working with such artists as Jean Hensholt and Lucien Littlefield, I have found that the intelligent cooperation they were able to give was of inestimable value to both of us.

In some studios, it is the policy to assign a makeup man to every company, regardless of the nature of the picture. I regard this as basically wrong. It saddles the company with unnecessary expense and too frequently gives the actors the feeling that the makeup artist is there merely to serve as a valet or ladies' maid, to fetch and carry powder-puffs at their bidding. Furthermore, any cameraman who is qualified to have charge of the photography of a modern production is certainly familiar enough with makeup to know when a makeup is wrong, or when one needs repairing. Why, then, have two makeup men on the set, as is actually the case when both a first cinematographer and a makeup artist are retained?

As regards the cooperation that must exist between the cinematographer and the makeup artist, I have always found this readily obtainable. For if the cinematographer is naturally more or less of a makeup artist, so too, from the nature of his work, is the makeup artist something of a cinematographer. Personally, I feel myself rather favored in this connection, for before I became a makeup artist I was a cinematographer working my way up to a camera through the laboratory and an assistant's job. Therefore I can not only speak the cameraman's language, and understand his problems and requirements, but view rushes and makeup tests with a cameraman's eye and judgment, if anything is wrong in either photography or processing, I can see it, and make allowances for it in judging my work, without any delays, or asking of questions. Yes, I am convinced that camera and laboratory training are vital for a makeup artist.

Looking forward, the future holds great possibilities. Makeup is only beginning to reach its artistic stride. We have far to go just as cinematography has. Color, third-dimension, and all the other developments that lie in the future offer us as great possibilities and as great problems as they offer the cinematographer. But if the present close cooperation between the two crafts is maintained and improved nothing is impossible.

New S.O.S. Catalogue

THE S.O.S. Corporation of 1600 Broadway, New York City, has just issued one of the most comprehensive catalogues dealing with sound equipment that has come to this writer's desk. Of particular interest is a large section devoted to rebuilt and reconditioned sound apparatus covering everything used in the making and showing of pictures. Anyone looking for used equipment would do well to write for this catalogue. It will be gladly mailed if you mention this notice.

GOERZ**CINE LENSES****KINO-HYPAR**

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It should be welcome news to cinematographers contemplating the purchase of a wide angle lens for amateur movies that a drastic price reduction has been effected in the Kino Hypar 1:2.7. Formerly sold at \$57 its present price is \$45. This includes finder lens when required. Its speed and unusually fine corrections ideally adapt this lens for all purposes of interior sport and panoramic photography.

Goerz Effect and Tilt Device enabling still amateur to create professionally artistic effect and a variety of effects has been reduced from \$112 to \$190. It is suggested as the best purchase to the camera club for the common use of all its members.

Literature on request.

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JACKSON J. ROSE

c/o The American Cinematographer

Army Air Corps Studies New "Zoom" Photographic Lens

THE WAR and peacetime possibilities in military aerial
photography, of the new "Zoom" lens recently developed
by the Bell & Howell Company for standard motion picture
cameras are attracting the attention of the United States Army.

This lens was primarily developed to "zoom" or "swing"
down on a subject or to recede from it without moving the
camera or scene. For instance, with the new lens, a parachute
jumper can be shot as a "close-up" all the way down to a
landing place or he can be photographed alternately "close-
up" and at actual distance. In such operations the positions
of the lens elements are changed but the position of the
camera remains the same.



Lieut. Geo. W. Goffard, director of the Photographic
Department of the Army Air Corps at Rantoul, Ill., has just
completed a series of airplane photographic tests of this
lens in flights over Chicago which disclosed tremendously
interesting results from a military standpoint.

It has been established by these tests that in wartime,
observation personnel flying over enemy lines at an altitude
of 30,000 feet, for example, can readily obtain for minute
military study large detail photographs of certain locations,
such as centers of resistance, munition depots, embarkation
points, etc., or take small scale pictures of large areas for
general observation or mapping purposes. The large scale
photographs taken at this altitude will have the appearance
of having been shot at approximately 5,000 feet.

The lens operation is so simple that a pilot photographer
in a single seater airplane can change to telephoto adjust-
ment, and vice versa, by merely moving by remote control
a small lever attached to the lens.

With the development of anti-aircraft guns and the new
high-altitude planes, photography will necessarily be carried
on at exceedingly high altitudes in future wars, and it is
believed that the Zoom lens will be a military necessity in
both still and motion picture photography.

In peace times, army and other photographers can fly "way
above the minimum altitude of 3,000 feet set by the De-
partment of Commerce and secure pictures equivalent to those
taken at an altitude of five or six hundred feet.

In order to obtain uniform scale in aerial mapping opera-
tions over areas where the terrain changes rapidly, it has
heretofore been necessary to use several cameras each fitted
with a lens of a different focal length. Now the Zoom lens,
installed in a single aerial camera, will make it possible for
the photographer to compensate readily for all changes in
scale and altitude during flight.

Globe Trotting Cinematography

(Continued from page 22.)

wining. Luckily we got the picture, but Norman's sad face told me what had happened. There was the big cigar, peacefully on her way, too far away to even hear her engine and I with a silent takeoff. This was before we had stock sounds in the lab. In a desperate effort we reworded the negative, and I tried to imitate vocally, the sound of the Gref's engine. The sound department said it was excellent motor sound recording, as we nudged each other in the projection room.

The interior of Central and South America offers a wealth of picture and sound material, but it also has its store of grief. On one occasion we wanted to shoot a native ceremony. All went well until darkness set in. The festivities were to last several days, but the best stuff happened after dark. Our flares had become wet and only sputtered or exploded on being ignited. We had shot a lot of footage on a story that was not complete. It would have been hard to explain this to our New York office. We went into a huddle. Miles away there was an airport. After a long taxi-cab trek we found their landing lights perfect for the work. Back we went with a goodly supply of gasoline, inactive rum! After much persuasion the troupe agreed to stage the rest of the dancing near the lights. With the rum and bright lights, the frenzy of our cast was a joy to behold. Unfortunately the natives had learned about dollars. Their demands for money were more than we could stand. Slowly while our interpreter consulted them, we packed our junk. Then with the lights out, we dashed away, but the rum had gotten in its work and our departure was made in a rain of stones, sticks and chunks of earth, but we had our picture.

On expeditionary photography, almost anything can happen and usually does. It's best to be prepared but not overloaded. With a good camera, plenty of film and lots of ingenuity, you can get what you are after and have fun doing it. A lean horse for a long race. Too often one finds too much junk on the lot of equipment, with the result of too little worth while material on the film when one returns. Trust your wits brother and save your back. Remember you are an artist not a truck horse. With present portable sound units, the old truck is done away with and much shooting can still be done silent. If you must take a car or two take light ones. Light weight is as important as in a horse race.

Regardless of what you plan to shoot or where, always bear these in mind, comedy, thrills, human interest. Novelty for every bit of film should entertain, with these in mind yours will.

"Rico" Announces Departure of Engineer

RICO announces that their engineer, Carlton W. Faulkner has sailed for Lahore, India, to deliver a new Rico trunk channel recording unit, and to supervise production of Indian pictures with this equipment.

Following completion of his duties in Lahore, Mr. Faulkner will make further "Rico" sound installations, and remain in India indefinitely, heading the "Rico" engineering organization in that country.

Communications for Mr. Faulkner may be addressed in care of the following "Rico" representatives: B. N. Sencer, 1 and 2 Old Post Office St., Calcutta, and M. L. Mistry, 46 Church Gate St., Fort Bombay.



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Sound Film Editing

(Continued from page 12)

light passes through and the cutter is able to handle both film without interfering with his observation of the picture.

Experienced editors require the syncing machine mostly for lining up sound effect and musical tracks after the picture has been cut, enabling them to run the action on one set of sprockets, the dialog on the second, the sound effects on the third, and musical or other background noises on the fourth set. In this manner, the editor can run all of his film through the synchronizing machine at one time, matching in everything in the one operation.

There are two different type patches used in the cutting room—one which covers the full sprocket and the other covering only the half sprocket. At Universal we find the half sprocket most satisfactory because that type seems to pass through the projection machine more readily, not tearing apart after repeated use as does the full sprocket patch.

Each editor is of course assigned one or two assistants, each of whom should have speed, care and system in the handling of his film. System in the cutting room naturally results in clearness. Film at all times should be kept on file in cans and in fire protection cabinets. Fire is a hazard in any part of an organization where film is being handled and the less film that is exposed the less the hazard. Particular care should be taken to expose as little film as possible and the efficient editor—with the assistance of an efficient assistant—will have very little film about his room at any one time.

The following mechanical devices really comprise the fittings of a cutting room. Metal re-winding tables, each table with one set of re-winders and racks for the filing of small rolls of film—with either artificial or natural light in the background, facing the rack. Steel cabinets for the filing of excess film, combination sound and silent rewinders, film bars and clips for the clipping together of film preliminary to splicing and also the necessary reels required in the handling of the film.

It again went to add that editing involves a great deal of careful and intelligent work. Give an efficient editor the above mentioned equipment—plus one pair of scissors—and no picture is too great a task for him.

I have found it a great advantage to surround myself with men who have a number of years' experience in back of them. In general the longer the experience the greater the proficiency. An editor with the handling of each picture, learns and experiences situations which perhaps have not confronted him before and in time becomes thoroughly familiar with dramatic comic and fast tempo situations. Often he is able to create situations in the picture which, from all appearances, the film would not permit.

Philadelphia Schools Use 80 Projectors

TYPICAL of the large public school visual education department is that of Philadelphia where more than eighty Filmo projectors are already at work in the schools. Dr. James G. Sigmans, Director of Visual Education has a library of over 2,000,000 feet of 16 mm. film at his disposal. In an article in the Philadelphia Evening Bulletin he was quoted as saying,

All the junior and senior high schools and 40 per cent of the elementary schools now have motion picture projectors. The department is still in its infancy, but is increasing the scope of its work annually. A new service which we have installed is the taking of pictures of outstanding events in the various schools. To date this has been chiefly confined to sports. Last year we took 40 reels of movies of track meets, football games and other happenings of interest to pupils."

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Chicago Daily News Becomes RCA Photophone Licensee

THE Chicago Daily News has become an RCA Photophone recording licensee and is arranging to install complete RCA Photophone recording equipment shortly, according to an announcement by the RCA Victor Company.

Premises in three several fields of activity as publishers of The Chicago Daily News, operators of radio station WMAQ, and world wide producers of The Universal Newspaper Newsprint for Universal Pictures Corporation. The Daily News is expected to expand its motion picture activities into other fields.

The Daily News is licensed to produce films for commercial and newsreel purposes and has concluded a special arrangement with RCA Victor for reducing its 35 mm film to 16 mm size for the new RCA Photophone portable projector. This arrangement makes The Daily News sound facilities available for special commercial work as sound as well as for the coverage of news subjects for inclusion in the newsreel.

The Daily News license agreement was the first ever made with an American newspaper for sound equipment.

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FOR SALE—Complete Mitchell Camera. Latest equipment bargain. Bess Bros. Inc., 1540 N. Calhoun Hollywood, Calif. Phone CR-1185.

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FOR SALE—1 - 75 mm Cook Lens #2 with Mitchell mount complete \$100.00. J. R. Lockwood, 523 N. Orange St., Glendale, Calif. Phone Douglas 3361 W.

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FOR RENT—Mitchell Motor, 1000 Ft. Mitchell Magazine. J. R. Lockwood, Glendale, Douglas 3361 W.

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BRULATOUR BULLETIN

What's What

EASTMAN FILMS

Who's Who

Gerrard Home From England After Year in Large Studios

ANOTHER Hollywood cameraman has returned to his native hearth after demonstrating to his British brothers that Eastman super sensitive panchromatic negative carries a lot of real weight in helping to build cinematographer reputations.

During the past year Mr. Gerrard photographed three features for British International and two features for M. G. M. Mr. Gerrard is one of the oldest staff cinematographers of the local Paramount Studios, having arrived at the local lot for about eight years. As we go to press negotiations are being carried on between Mr. Gerrard and another major studio whereby he will be assigned an important feature which will be in production for ten or twelve weeks.

What the Cameramen Are Doing to Keep Hollywood on Top

Ralph (Whatanam) Stanb

When we were a little boy we remember a low, heavily litting tale called "Whitening Ralph". The tale told a story about a very clever guy who was a one-man band. Now we find his counterpart in Ralph Stanb, who really is a one-man producing unit. Mr. Stanb operates at the Columbia Studios, where he produces the popular "Screen Snapshots". Ralph writes his own stories, selects his own material, directs the action, and then takes his place at the camera and takes care of the photography.

From the camera he jumps to the side and does his own particular style of "Watercoloring" and from there he goes to the job of editing. Thus far we have had no information that Ralph has actually helped sell the pictures but he is our knowledge and operated the production machine for the exhibitor who buys them.

James C. Van Trees

Junior (as you) Van Trees is at least unique among the successful cameramen on the West Coast in that he never objects to a lay-off. (Believe it or not, *2 Dan Rogers*.) The real reason is Junior's delightful ranch and mountain lodge high up in the hills on the George Bayer above the town of Palmers, approximately nine miles north of Hollywood. We're forgetting whether Jim's ranch is 1,200 or 15,000 acres, but after taking in step with Junior for his view of a two-hour hike, we're willing to take Hollywood figures and let it go at that. Incidentally fishing season opening May first has made Jim the most popular guy on the Warner-Pal National lot. Even spectators give him the nod.

Gene MacWilliams

One of the oldest (in point of service) of the old-time Fox Cameramen is Gene MacWilliams, who has returned to the Fox Hills plant where he is photographing Al Santoli's production, "Roberta of Saratoga Farm". His record is Joe McDonald, Harry Dawe and Roger Schneiderman are his associates.

Bob De Grasse Returns

ANOTHER globe trotter galloped back to our purple hills this week when Bob De Grasse hopped from the Chel after having spent nine months in England for R. K. O. where he worked as second with Bob Murnin. It is funny and proper that De Grasse should return to the Mileage Gower lot where he is now located.

Hal Mohr

Mo-Mohr! Life's just one beauty after another for the cameraman who was the first to shoot actual production scenes with Eastman super-sensitive panchromatic negative. The work of Mr. Mohr has registered in a big international way on the Columbia picture production, which he photographed for R. K. O. Picture New Hal has taken Bill Stull (his own product) and has made him to Fox hills, where he is turning in a sweet symphony of lights and shadows with the other beautiful Bennett, Jones, who is appearing with Ben Lyon under the direction of Alan Cranston in "West-End Day".

Mike Joyce

Who has been the right hand man of Bel Palme at Warner Brothers for a long, long time is a perfect "Take as R. Palme's Day when the star's dropped down with a new cameraman. He arrives the leg of Michael Feinick. (May we add our congratulations.)

Karl Freund

Cameraman's Conscience under-nourished cinematographer who works so consistently that he never gets time to eat is turning in a beautiful production in "Dark Street" which is being directed at Universal by John H. Stahl. Assisting Mr. Freund are Freddie Eldridge and Al Jones as second and Paul Hill and Russ Rothman as assistants.

Dev Jennings

Give Warner Brothers a lot of credit when a cameraman sticks with this outfit. It's never forgotten when comes an opportunity to use his services. Noted recent is the transfer of old-timers at the Burbank lot is Dev Jennings who is photographing "Compromise". His second is Frank Kenyon, while Jack Kaufman holds down the spot of assistant.

(NOTE: HALL—O! I find that upper corner has in last month's issue with the speech about the cameramen who had been at North Studio for ten years. Maybe you'd better put this one in a blue frame—R. G. H.)

George Schneiderman

Admire he has been with Fox for eighteen years—and he's still there and is out on the beach. I'd like to see a list of the pictures Schneiderman has made for Fox. See if you can get one. It ought to be plenty interesting.

Teddy Tetzlaff

Columbia is another studio where shiftness is very definitely appreciated. Teddy Tetzlaff is rounding out his fourth year at the Gower Street plant, where he has secured in some of Columbia's outstanding hits. He is presently photographing "Attorney for the Defense". His second cameraman is Henry French, and his assistants are Jack Anderson and Marcel Grand.

Joe Walker

Another old-timer at the Columbia Studios is Joe Walker whose photographic achievement on "Diaphane" will be remembered long after the rest of that year's excellent picture is forgotten. His present subject, "Faith", carries some very unusual shots. Walker's handling of such scenes is excellent in this picture he has one sequence where more than a thousand people are used. (And Joe, knowing the parallel temperament of Sam Briskin, sees to it that every one of those shaky checks is accounted for on the street.)

Benny Kline

Sound-on-foot pictures are coming back into popularity fast. One of the factors of appeal responsible for this is photography of the class being turned in by Benny Kline, who photographs for Warner (Irving Thalberg) the Tim McCoy and the Columbia Buck Jones feature. Benny accomplishes some thrilling action effects with his unusual and daring angles and his always fast moving camera.

Ernie Palmer

The first time we met Ernie Palmer (which was more years back than we care to admit) he was photographing for John H. Stahl under the production plan of J. H. Mercer at the old Bray Studio on Mission Road. One of these Stahl men worked with one of the best shots at Fox. Immediately afterward Ernie moved over to Western Avenue. His productions with the Fox Company have been thus appeared in the year's lists of best pictures. He continues to draw the important assignments, and is one of the most modest and delightful fellows in the business. His second is John Schmitz, Sperdy Little and Ben Anderson are his assistants.

Extry!! Extry!! Extry!!!

ONE GRAND REWARD!! Show me the guy who doesn't nod when he sees Jimmy Hays pull an orange!

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